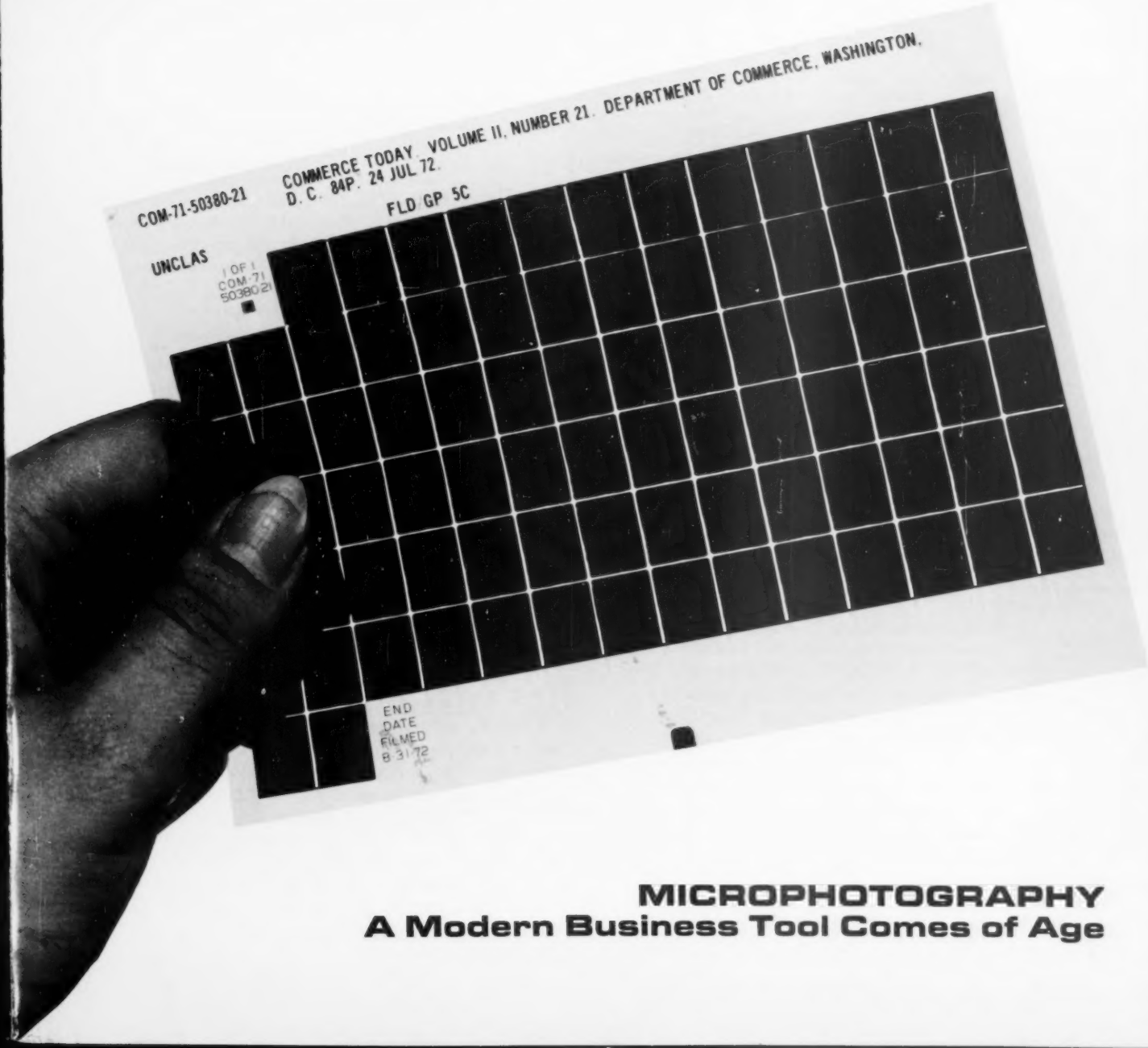
A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

Incorporating *International Commerce*

SEPTEMBER 18, 1972

Commerce Today

Coming Developments in Business and Technology



MICROPHOTOGRAPHY
A Modern Business Tool Comes of Age

Newsmemo

Business expects its capital outlays to increase by nearly 10 percent this year over 1971. The projection of a 9.7 percent rise comes in response to a survey made in July and August by the Commerce Department. This compares with an actual gain of 1.9 percent in 1971. Total capital spending by business this year, if the survey expectations are borne out, would be $89.1 billion.

"Meet Me In St. Louis," but not from Nov. 13-17. That is when 35 to 40 of the city's firms will have their executives in Mexico, putting on a "St. Louis Exhibits In Mexico City" show at the U.S. Trade Center. The St. Louis Regional Export Expansion Council was the prime mover of this innovative sales venture. Commerce's overseas trade centers welcome such initiatives by groups in the U.S., and offer them a choice of the open dates on their exhibition schedules.

The record of American industry is far better than its reputation. Whose view? Du Pont head Charles B. McCoy so contends in an essay inaugurating the new company magazine, Du Pont Context. McCoy says the challenge to business today is to convince the entire U.S. community that its profits are not excessive and that it sincerely wants to help solve social and environmental problems. The facts to do this job are waiting, McCoy observes, but business spokesmen must make use of them.

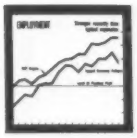
Until recently there has been very little public awareness of how standards for industry are developed and how great an impact they have on everyday life. But now, says Roy P. Trowbridge, who heads the American National Standards Institute, this has changed. Standards produced by the many ANSI-affiliated groups have been seen by the public as important protections. What is needed today, Trowbridge maintains, is better coordination of U.S. standards, for greater compatibility and to avoid wasteful duplication.

Common sense prevention of only half the construction accidents since 1957 could have saved the U.S. economy $1 billion. Chicago structural engineer Sherwin P. Asrow makes this estimate and holds that hidden losses from such accidents can be four to five times as much as the cost of compensation insurance. Builders pass on about 85 percent of their accident costs to the ultimate consumer, Asrow has found. Also, a rise in accident rates leads to higher insurance rates for the entire industry. An accidental death on the job can bring one employer's rates up over a two to five-year period.

Relationship between multinational corporations and social policies will be explored at a world meeting in Geneva this fall. Business, government and trade union representatives from many nations, including the U.S., will participate in a meeting sponsored by the International Labor Organization, which is a UN agency. Employment, income security, job training, conditions of work and life are on the agenda for the Oct. 26-Nov. 4 sessions.

Commerce Today

2 Economic Highlights

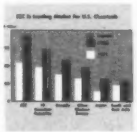


Measures of the current economy are strong compared with the patterns of other business expansions over the past 20 years; these barometers accelerated after the introduction of the President's New Economic Policy in 1971.

4 An Old Invention Becomes Big Assist To Today's Executive

Microphotography industry is expanding rapidly as government and industry spark a printing revolution in the growing use of this more than a century old form of photography.

9 Chemicals, Major Plus In U.S. Trade Balance, Losing Export Thrust



A new Commerce Department study indicates that foreign competitors have been gaining since 1965 as the world market doubled.

13 Head Of Black Publishing Empire Tells How Minorities Can Succeed

Technical and management assistance are more important than financial help, he says, with personal commitment an important element.

17 Domestic Business Report

Peterson calls for "longer view" on economy—Steel industry's environmental goals—Record flow of foreign visitors dazzle travel industry—Almost half of U.S. workers are white collar—Computerized service becomes a giant.

28 Science & Technology Report

Pollution control market to grow rapidly—Traveler weather forecasts begin for 88 cities—Caltech Sea Grant to help $10 million kelp industry—Meteorite magnetism study may explain birth of solar system—Compulsory patent licensing seen hurting inventor incentive.

36 International Commerce Report

Export credit insurance unit has new plans—National Export Expansion Council meeting plans—Results at Commerce trade shows abroad—U.S. publications are put to work overseas—Economic outlook in six countries—List of foreign nations' investment offices in U.S.—Investment, trade leads from around the world.

U.S. DEPARTMENT
OF COMMERCE

PETER G. PETERSON
Secretary

JAMES T. LYNN
Under Secretary

B. R. LITTIN
Director of Public Affairs

DICK EVANS
Editor

CLARENCE M. ZENS
Associate Editor, International Commerce

RICHARD BALENTINE
Associate Editor, Science and Technology

ARTHUR McDERMOTT
Associate Editor, Domestic Business

AMERICO A. W. FAVALE
Coordinator of Graphics

Published biweekly by the U.S. Department of Commerce, Washington, D.C.

Annual subscription rate $15 ($3.75 additional for foreign mailing, $14.30 additional for domestic air mailing). Single copy 60 cents. Make checks or money orders payable to Superintendent of Documents and mail to Superintendent, U.S. Government Printing Office, Washington, D.C. 20402, or to any U.S. Department of Commerce Field Office.

All subscription inquiries and address changes should be sent to the Superintendent of Documents, at the above address. This is the central distribution agency for U.S. Government publications.

Microfiche copy available at 95 cents per issue from National Technical Information Service, Springfield, Virginia, 22151.

Other inquiries should be sent to the U.S. Department of Commerce, 14th Street and Constitution Avenue, Washington, D.C., 20230.

Contents of this publication are not copyrighted unless indicated, and if not so indicated, the articles may be reproduced in part or in full without any prior consent. Use of funds for printing this publication approved by the Director of the Office of Management and Budget November 12, 1971.

COVER: ***A recent issue of this magazine on microfiche is inspected by a librarian. Each issue is microphotographed in this fashion as a permanent record, part of the increasing use of this medium throughout Government and industry. This modern business tool is being expanded at a rapid rate as executives find it important to management decision-making. See story on Page 4.***

ECONOMIC
HIGHLIGHTS

Key Economic Measures, Spurred By NEP, Stronger Than Typical Expansion Patterns

Economic Highlights is prepared by Dr. Harold C. Passer, Assistant Secretary for Economic Affairs, and is based on the latest economic indicators (see charts on adjoining page).

The gauges that measure economic strength during a business cycle expansion tell a more meaningful story when they are compared with other expansions. A given series can be measured with reference to the point at which the general economic expansion begins or the peak of the previous expansion. The latter is more logical because it shows clearly how much of the upward movement represents progress into new high ground. When the reference point for the measurement is the low point, or trough, much of the upward progress merely represents the recovery of the ground that was lost during the slowdown that preceded the expansion.

In each of the six major series charted on the opposite page, the red line represents the percentage changes in the current series relative to its value at the time of the previous business cycle peak, which was November 1969. Once the red line has moved up to the peak line, the series has made up the ground lost during the preceding slowdown. The typical pattern, shown for comparison, is the average performance of the same series during the expansions that began in 1949, 1954, 1958, and 1961.

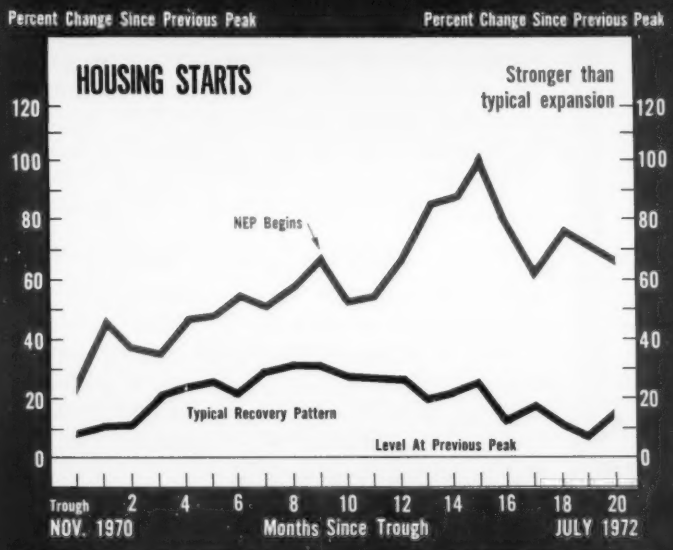
The current position of these key indicators shows that all except industrial production have advanced as far or farther than the average of other recoveries after six quarters of expansion. Furthermore, the rate of growth of these barometers accelerated after the introduction of the Administration's New Economic Policy a year ago.

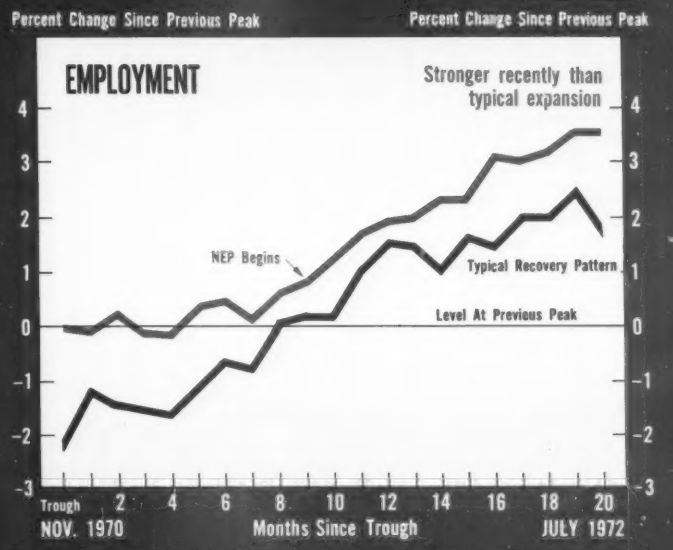
Despite the overall pattern of strength, there is considerable variation in the relative strength and timing of the various economic indicators. Housing starts, for example, were well above the average pattern before the New Economic Policy and then surged even farther ahead. Housing has fallen back some recently but is still doing substantially better than the average pattern.

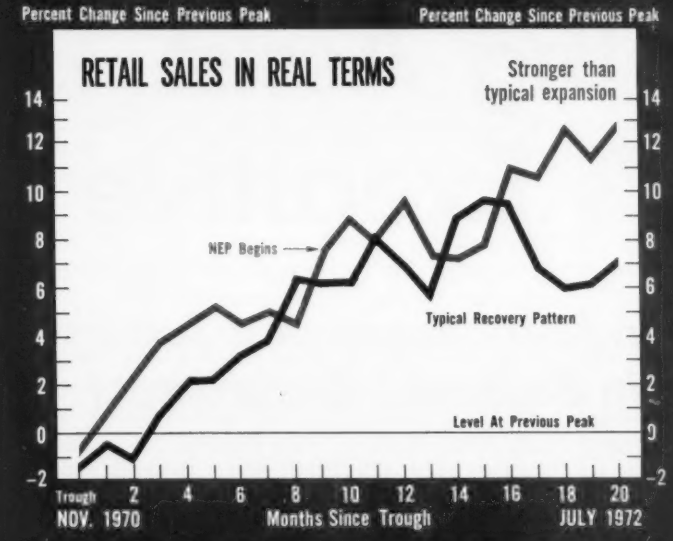
Employment has remained well above the average pattern and has risen at an extraordinarily rapid pace for the past year or so. The retail sales line was very close to the typical pattern a year ago, but the upsurge that began with the introduction of the New Economic Policy has carried it far above the average expansion pattern. New factory orders and Real GNP are examples of series that lagged behind the average for awhile, but advanced strongly under the new policy and have now caught up with the average. The Investment Tax Credit, which has stimulated capital goods buying, has had a significant effect on new orders for durables.

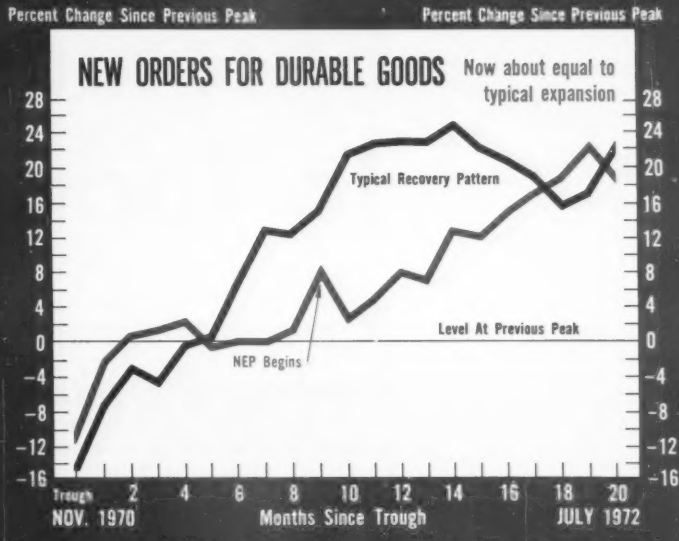
Industrial production is one of the few series that is still significantly below the typical performance during an expansion, although it has narrowed the gap over the past year. The gap will probably be narrowed further in the months ahead because of two factors: the foreign trade balance is expected to improve, and inventories, which are at a relatively low level, are expected to increase and this will add to the demand created by rising sales.

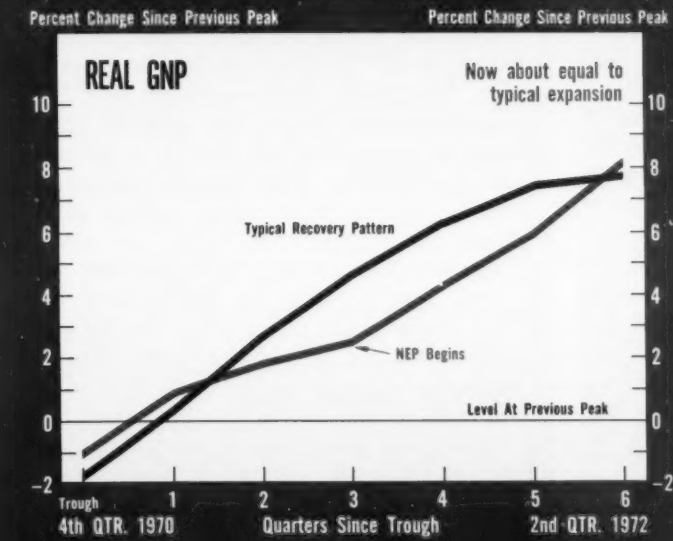
Latest Indicators

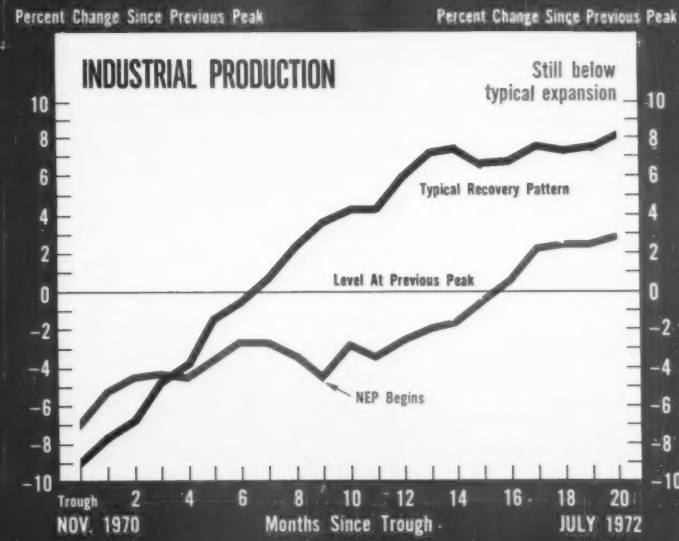












Commerce Today
Vol. II, No. 25
September 18, 1972

An Old Invention Becomes Big Assist To Today's Executive

Microphotography Industry Expansion Sparks Printing Revolution In Business, Government

A form of photography that began more than a century ago as something of a novelty has branched out and expanded in recent years until it is now revolutionizing the whole field of publishing, condensing, storing, and retrieving information, and has become a highly important tool in business management decisions. This is microphotography, or the photographing of documents, books, and other material on a minute scale.

The basic product of microphotography is the microform (microfilm, microfiche), which is opening up an entirely new world of opportunities for placing information in the hands of businessmen and a growing array of other users faster and at less cost. The full range of its potential is still to be explored.

Because of the rapidly growing importance of this process, it is being commemorated in National Microfilm Week Sept. 24-30. "Microfilm" is still commonly used to indicate either film or fiche. The lead in observing the week is being taken by the National Microfilm Association, which has headquarters in Silver Spring, Maryland. The association has 24 chapters scattered around the country, and the chapters are using the week as a means of calling attention to the rapid strides microfilm is making in its various forms and applications. Governors and Mayors are issuing proclamations announcing the advent of the week and stressing its significance. A number of companies active in the expanding microfilm industry are holding "open house" on particular days during the week. This will be an occasion for showing methods used in the making and processing of microfilm, the equipment employed, viewers or readers for enlarging microfilm so that it can be read, and the like.

Commerce's National Technical Information Service (NTIS), which uses vast quantities of both microfilm and microfiche and sells documents reproduced in it, is holding "open house" Sept. 27 and 28 at its operations center in Springfield, Va. Efforts are being made to bring the increasing advantages of microfilm to the attention of educators and students of high schools and colleges.

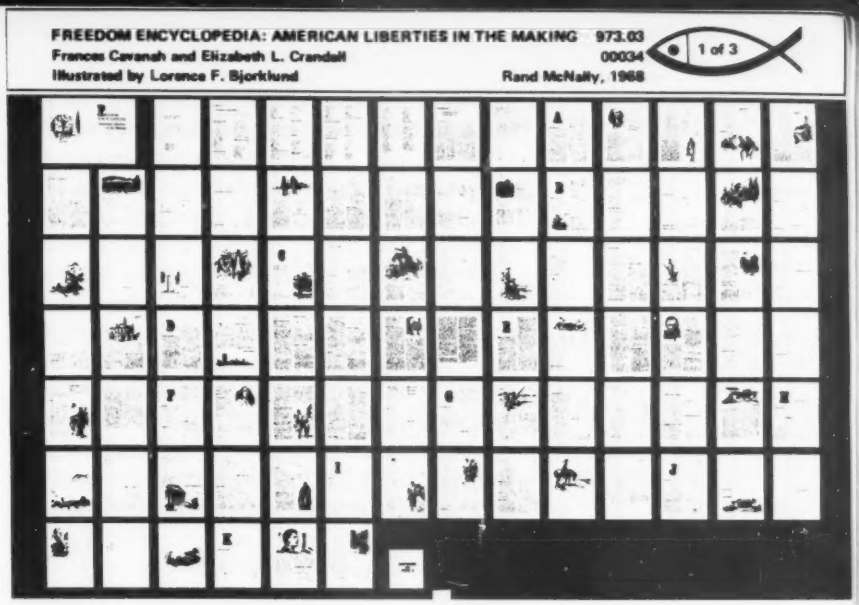
Technological developments

The growing use of microfilm has been made possible by increasing technological developments and improvements in microphotography, equipment, film, viewers and viewer-printers, filing and retrieval systems, with particular emphasis on automatic operations. The Federal Government has been a leader in the use and development of microfilm. But State and local governments are going in for it on a large scale, and private industry is finding it valuable in numerous ways. The vast and increasing purposes for which it is being used range from photographing and storing data on automobile parts to providing quick access to information helpful in solving crimes.

The microfilm industry is expanding rapidly, and some estimates project its annual sales at more than $1 billion by 1975. The National Microfilm Association has estimated its average annual growth in recent years at 18 percent. While conventional printing and material costs have risen in recent years, microfilm costs have remained unchanged and in some instances have declined. Still, careful inquiry reveals that the impact of microfilm on conventional printing and publishing is small. Most publishers are said to regard film as a supplement to the information process. A major value of microfilm is in the reproduction of printed material. It makes possible enormous savings in cost per printed page, mailing costs, and economy in storage space. It is also a great time saver by permitting quick and easy access to information.

A new phase

Microfilm is now moving into a new phase because of its importance in the decision-making process of management. By making it possible to place desired information quickly at the hand of management, it has become an invaluable assist to the business executive, and to responsible officials of government and to many others called upon to make the important top-level decisions.


FREEDOM ENCYCLOPEDIA: AMERICAN LIBERTIES IN THE MAKING 973.03
Frances Cavanah and Elizabeth L. Crandall 00034
Illustrated by Lorence F. Bjorklund Rand McNally, 1968
1 of 3

SPACE SAVER—*This microfiche contains the entire issue of one popular weekly news magazine. Easy to update, microfiche is most suited for publication of multi-page items such as catalogs, reports, books and similar items requiring numbers of copies.*

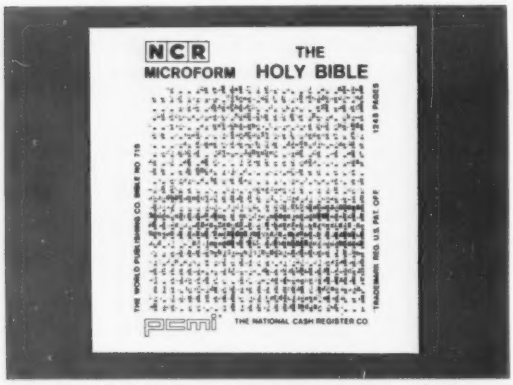
There are various types of microforms, including roll film, microfiche, and aperture cards. Microfiche is a sheet of microfilm arranged in a grid pattern. Fiche is simply a French word for card. The aperture card is a tab card in which microfilm is inserted.

In roll film, 16 millimeter width microfilm accounts for about 75 percent of the field, and 35 millimeter most of the rest. The rolls can be stored in individual containers or mass-stored in shallow drawer filing equipment. Cartridge and cassette microfilm allow a variety of automated operations, including automatic threading of the film into the viewer. Film contained in the cartridge must be rewound prior to removing the cartridge from the viewer, but the cassette container can be removed without rewinding. Primary advantages of microfiche are greatly reduced copy costs, convenience, and economy of storage and mailing costs. It permits reduction in size of the original page or figure ranging from one-twentieth to more than one two-hundredths. For practical purposes, most reductions are on the order of one twenty-fourth, and only rarely are reductions in excess of one fiftieth. A recent decision of the Federal Government is that fiche used by it will be four by six inches, this being deemed most practical. Aperture cards are often used as means of recording and storing blueprints of parts or other data.

A major development, and a primary aid

to business management, is the array of systems known as computer-output-microfilm, COM. This is a means for bringing information locked in computers out in microfilm for quick access, and through improved retrieval methods to allow a fast selection of desired data, which then can be placed in viewers or viewer-printers and blown up for instant use.

Improvements in microphotography have now reached a point where it is possible to print the Holy Bible on a chip of microfiche measuring one by one and one-half inches, or even to record 8,000 pages on a four- by



MAJOR ADVANCE—*A major technological advance in microphotography is ultrafiche. The sample here contains the 1,245 pages of the Bible in a 1½-inch square of film. One commercial ultrafiche system offers users the capability of placing up to 3,200 pages of data on one microfiche-size film card.*

six-inch piece of microfiche, or ultrafiche, as it is called. The microfiche is placed in a viewer or viewer-printer, which expands it to practically normal page size for reading or printing. However, in practical use at this time, microfiche presents up to 100 pages of printed matter on a four-by-six-inch sheet of film. Its general use for the highly refined reproductions must await future technological progress.

Microphotography had its beginning in 1839 when John Benjamin Dancer, of Manchester, England, installed a microscope lens in a camera and produced the world's first microphotograph of a document. By this means, Dancer reduced a twenty-inch document to an image less than one-eighth of an inch long on a daguerreotype photograph. In 1851, Frederick Scott Archer, an Englishman, introduced the collodion process that replaced the daguerreotype. This process consisted of making photographs on glass plates which were coated with a viscous solution made from nitrated cellulose, ether, alcohol, and iodide, and exposed while wet. In 1852, Dancer brought together microsized photography and the collodion process, and made the first collodion microphotograph.

At the time, this was an interesting toy with no practical application. But in time highly valuable use was found for it. There is an unsubstantiated story that, in the American Civil War, microphotography saved the life of a Confederate soldier. The soldier was unable to prove his military status when captured by Federal troops, and was to be executed as a spy. However, sympathizers, according to the story, sent a message on microfilm to Southern headquarters asking that the man's identity as a soldier be confirmed to authorities at Johnson's Island Federal prison in Ohio, where the soldier was held. The film is said to have been sewn under the cloth covering on the buttons of a jacket. It got through, the man's identity was confirmed, and he was given prisoner of war status. After the war, he is said to have become a noted journalist in London.

What is reported to be an authentic story of the early use of microphotography related to what came to be known as the "French Pigeon Post," conducted during the siege of Paris in the Franco-Prussian War in 1870 and 1871. Rene Dragon, a Frenchman, photographed telegrams on film two inches wide, placed them in tubes, and had them carried across Prussian lines by carrier pigeons. By the end of the war, more than 100,000 messages had been carried into Paris by "Pigeon Post" to be projected and viewed on screens. This achievement stimulated additional interest in microform technology.

In 1859, Dragon had been awarded the first patent connected with microphotography. The patent was for viewers small enough to wear on a watch chain. Dragon combined the viewers with microphotographs to make novelty jewelry which had some vogue in France in the era of Napoleon the Third.

History's first

The first major development in modern microfilm history occurred in the 1920s. In 1923, a large depositor of a New York City bank disputed a $300 charge against his checking account. The bank, which at the time had no proof to contest the claim, made good the $300. But a bank employee was moved to search for a method of preserving proof of check transactions. The result was a rotary camera that produced 16-millimeter

film in 100-foot rolls at a reduction ratio of one twenty-sixth. The camera, developed in 1928, could turn out a film record of endorsed checks at the rate of 60 per minute. It opened the door for a large-scale application of microphotography in the business world.

V-Mail program

World War II gave a big boost to microfilm development. An outstanding example was the V-Mail program, established because of the space problem in handling overseas mail. Letters were microphotographed in the U.S. on 16-millimeter roll film, flown overseas, printed and enlarged at the receiving station, and distributed to servicemen. Thus, more than 70 years after Dragon's "Pigeon Post," the urgent needs of war resulted in a massive use of microfilm for message transmission. The V-Mail operation was the most extensive microfilm effort the world had seen. The requirements of the program were such that other technological developments occurred. Continuous paper processing equipment was designed. Special sensitized paper was invented. Viewers were improved and viewer-printers were developed. The war spurred the application of microfilm to the maintenance of vital records, engineering drawings, war plans, and payroll records.

At the end of the war, however, microfilm still was primarily a space-saving storage medium. Its present-day application is a development built up since World War II.

The following is a summation of some of the ways in which microfilm is being used at the present time.

Federal Government: Microfilm has been an invaluable advantage in the conduct of the varied activities of the Federal Government. It is estimated that Government micropublishing accounts for 20 percent of the Nation's total.

Commerce's National Technical Information Service (NTIS) sells well over three million pieces of specialized information a year to more than 100,000 buyers, a substantial part of which is on microfiche. An NTIS service in high favor with the business community is *Selected Categories in Microfiche,* or SCIM. This is a standing order service intended to provide the customer with microfiche copies of reports in highly selective fields of interest.

A number of other Government agencies are engaged in the production and dissemination of material on microfiche, which is used both for internal filing systems and for publication purposes.

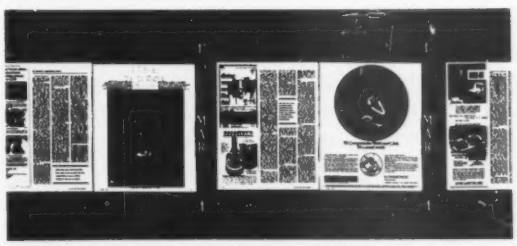
The Social Security Administration is believed to be the largest microfilm user and bookkeeping system in the world. Each year, approximately 30 million documents are received by Social Security, enough to fill file cabinets occupying 100,000 square feet of space. Social Security handles 168 million accounts on microfilm and also has these on magnetic tape.

The Library of Congress and National Archives have their own microfilming operations and make many microfilm documents available to the public. Commerce's U.S. Patent Office uses microfilm in producing paper copies of many U.S. patents. The Office is introducing aperture card files of U.S. patents which can be reproduced and offered to the public in numerical arrangement, in subject matter categories, or as individual documents—all at low cost.

Each week the International Revenue Service microfilms the revisions in its 90 million tax accounts and forwards the revised microfilm to each regional office for updating its accounts. Commerce's Bureau of the Census is employing microfilm for its monthly current population surveys, management reports, export-import reports, and other data.

Classified microfiche

The Defense Documentation Center (DDC) has the task of supplying the Department of Defense and defense industries with documentation and bibliographic information. DDC is distributing its classified research and development materials on microfiche to the Defense Department and other Government agencies and contractors. Use of microfilm by the U.S. Navy is widespread, even to the extent that certain ships have filming facilities on board.



ENGINEERING RECORD—*Strips of 35 mm microfilm are widely used for filming engineering documents. But it is most often seen in libraries since it is the format used for recording newspapers and other periodicals. Industry uses vast quantities.*

These are only a few of the manifold ways in which the Federal Government is making use of microfilm.

The Congressional Joint Committee on Printing has authorized the Government Printing Office to go into the field of micropublishing. The GPO has set up a committee to implement this directive. Proposed specifications for microfiche for this work have been drafted, and a questionnaire to be submitted to Federal depository libraries seeking their answers to what would be useful to them in this area has been prepared. This material has been submitted to the Joint Committee on Printing for review.

Enormous savings

From this beginning, it would appear that the GPO eventually will be publishing in microfilm its vast volume of documents, including quite likely the Congressional Record, although the documents still would be published on paper as well. The expectation is that libraries will spur the movement for micropublishing because of the enormous savings in cost and storage space. University presses are in the forefront of the movement for duplication publishing in which books and documents appear on film as well as paper.

State and Local Governments: Several of the States are recording and preserving legal documents on microfilm. In Kentucky, the office of the Secretary of State has microfilmed records of incorporation dating back to 1792, the year the State was admitted to the Union. In various counties, the county records office has all public documents on aperture cards and can make copies available quickly on demand. The State of Delaware has converted to microfilm all types of public documents from land surveys to election returns.

Private Enterprise: The extent to which microfilm is being used by industry and business is too vast to easily describe. A few references will indicate its scope.

Various banks are improving customer services by microfilming checks, deposits, and other transactions for the security of both the bank and the customer in case of loss or misplacement. Some banks maintain microfilmed signatures of their customers to permit rapid teller verification. The insurance industry employs computer-output-microfilm (COM) to free agents to sell more insurance. The New York Stock Exchange utilizes documentary evidence of microfilm to cut down on the paper explosion created on record trading days. Certain brokerage houses have converted to microfilm from the old system of numbering all bonds and recording transactions by hand.

Commercial airlines rely more and more on microfilm systems for reservation control, credit card accounting, payrolls, revenue accounting, and maintenance control. Some railroads handle documents with a combined data processing and microfilm system that has cut retrieval times from minutes to a few seconds. Telephone, electric and gas companies depend on microfilm to provide prompt service.

Education: Large and small libraries are now photographing all transactions on microfilm. The microfilming system has speeded up the charging and return of books, put books back into circulation more quickly, and enabled more rapid computation of overdue lists. These are some of the ways in which microfilm is easing the workload of libraries.

Microfilm has invaded the nation's school system, even the elementary schools. For example, at the Barrington, N.H., elementary school, children are learning to read and to study a wide range of subjects without books, and at several schools across the country youngsters are being taught to read using standard microfilm readers. Hundreds of children's books have been reproduced so that their screen image will be at least as large as the original, and many images are much larger. Many of the books, particularly those for beginners, have been reproduced in color. Children have taken readily to the equipment, and because of their interest are motivated to read more.

Health: Modern hospitals can now microfilm a patient's medical history on admission and file it in a central location where it will be available within minutes of a call from a physician anywhere in the hospital. In addition to more rapid patient treatment, the saving of space is highly important in overcrowded hospitals.

Thus in a thousand ways the use of microfilm is catching on and expanding. The device, first exploited on a large scale in Dragon's "Pigeon Post" a century ago, will continue to grow. At present, very good quality microfiche viewers are being priced under $100. The day may not be distant when they will be as commonplace as transistor radios.

—NTIS

Chemicals, Major Plus In U.S. Trade Balance, Losing Export Thrust

New Commerce Study Shows Competitors Gaining Since 1965 As World Market Doubles

The U.S. foreign sales of chemicals, a massive contributor to the plus side of the national balance of trade, continues in substantial surplus. Exports, however, have increased more slowly than imports in recent years and have also lagged behind shipments of other leading suppliers.

These are among the key findings in a Department of Commerce study of foreign trade in chemicals, principally exports, in 1965-71. Furthermore, the study noted that:

► U.S. chemical exports exceeded imports by an annual margin of $2.2 to $2.4 billion from the late 60's through 1971. The surplus slipped below $2 billion at a yearly rate in the first six months of 1972.

► World chemical exports doubled between 1965 and 1971, while U.S. exports rose by only three fifths. This disparity in growth rates depressed the U.S. share of the world market from 24.7 percent to 19.9 percent, continuing the downward trend underway for over a decade.

► Imports of chemicals into the United States more than doubled during the six years ending in 1971.

► The European Economic Community (EEC) has been the leading, and Japan the fastest growing market for U.S. chemicals during this period.

► Shipments to U.S.-owned subsidiaries abroad constitute a significant portion of the nation's sales of chemicals to foreign markets.

U.S. exports advance

U.S. chemical exports have shown a gain of $1.4 billion since 1965, reaching a level of $3.8 billion last year. By comparison, the advance in world shipments (based on exports from the United States and 13 other leading trading nations) amounted to $9.6 billion, bringing the total to $19.4 billion.

Organic chemicals accounted for the largest portion of the dollar gain in U.S. chemical exports during this period. Basic organics increased the most for any group but organic products, especially plastic materials, also showed important dollar gains. Radioactive and associated materials—by far the fastest growing U.S. export among major chemicals—basic inorganics and medicinals contributed materially to the rise as well, even though sales to foreign markets of the

last two groups declined in 1971. On the other hand, increases in dyestuffs and essential oils were comparatively modest.

Chemicals accrue surplus

In 1971, U.S. chemical exports remained at virtually their previous year's level, continuing the recent trend of alternating periods of expansion and pause. Last year's sluggishness reflected both the slowdown in foreign economies, especially in Western Europe, and increased production of chemicals abroad. Special factors also contributed to the levelling off, principally the dockstrikes which disrupted shipping at West, East, and Gulf Coast ports during the second half.

Shipments in 1970, on the other hand, had surged by nearly 15 percent, stimulated by buoyant business activity in foreign markets. Although imports into the United States rose even faster that year, the resulting surplus of $2.4 billion in the chemical trade contributed significantly to the nation's overall merchandise balance. The surplus in chemicals was only slightly less in 1971, when this country incurred a deficit in total trade of some $2 billion.

In the first six months of this year, chemical exports, although still sluggish, recovered from the stagnation in 1971 and rose to an annual rate of $3.9 billion. As in the recent past, imports—running at $2.0 billion—advanced at a faster pace. Thus, the surplus dipped to a yearly rate of $1.9 billion.

Among the factors that have adversely affected U.S. chemical exports in recent years have been the expansion of manufacturing facilities abroad, the narrowing or disappearance of the American technological advantage in some products, and foreign government export incentives.

Also deterring U.S. exports have been their comparatively high prices. For example, a study prepared for the Manufacturing Chemists Association indicated that prices in January 1969 were generally lower in Europe than in this country. Nontariff barriers have likewise slowed the outflow of U.S. chemicals. These obstacles, which are widespread, include quantitative and exchange restrictions, taxes, health and safety regulations, and sometimes cumbersome customs procedures.

Major European chemical producers enjoy still another competitive advantage in the remission of indirect or value-added taxes on exports. For most of these companies, such taxes often represent a greater share of total taxes than those on income which are the principal levies on U.S. manufacturers.

In 1971, U.S.-based firms in the chemical and other industries, through a federal law authorizing the establishment of Domestic International Sales Corporations (DISC), were given an opportunity to defer indefinitely half their income taxes arising from exports. This legislation was designed to equalize the tax provisions on profits from exports with those affecting earnings of U.S. subsidiaries abroad.

According to the Manufacturing Chemists Association study, productivity in the U.S. chemical industry is higher than in those of Japan and Europe. In addition, producers in this country are favored by lower energy costs and a large domestic market with inherent opportunities for economies of scale. These advantages were found to be offset by lower wage scales abroad and cheaper costs of some raw materials to foreign competitors.

Organics lead way

Exports of basic organics rose by 48 percent to nearly $1 billion during 1965-71. Pesticides in this group, with some financing by the U.S. Agency for International Development (AID), rose by nearly three fourths to reach almost $135 million. (Inorganic pesticides amounted to an additional $118 million. Total pesticide exports in 1971 thus exceeded $250 million). Exports of alcohols,

U.S. Chemical Exports

Grow Moderately But Lag Behind Competition

Product	Value 1971 ($ Million)	Increase 1965-71 (Percent)	Share Index[1] 1970 (1965 = 100)
Total	3,837	60	89
Organic chemicals	989	48	86
Plastic materials	657	55	71
Inorganic chemicals	422	64	95
Medicinals and pharmaceuticals	396	55	86
Radioactive materials	236	462	90
Manufactured fertilizers	191	25	125
Pesticides (inorganic)	118	114	101
Essential oils	56	47	92
Other chemicals	772	52	88

[1] Share of exports of 14 leading suppliers to world markets, excluding shipments to the United States.

U.S. Trade in Chemicals

Millions of dollars

Year	Exports	Imports	Balance
1965	2,403	768	1,635
1966	2,675	955	1,720
1967	2,802	958	1,844
1968	3,287	1,129	2,158
1969	3,383	1,228	2,155
1970	3,826	1,450	2,376
1971	3,837	1,612	2,225
Percent change			
1965-71	+ 60	+110	+ 36

Note: In the first six months of 1972, U.S. exports of chemicals were running at a seasonally adjusted annual rate of $3,940 million; imports at a rate of $2,006 million.

including polyhydrics and glycols, totaled nearly $100 million, a gain of almost three fifths in the same period. Alcohols are important for the manufacture of plasticizers and other specialty chemicals and are also utilized directly as solvents. Chlorinated hydrocarbons, a key organic in making resins as well as solvents and aerosol propellants for insecticides, were exported in the amount of nearly $70 million in 1971.

Among organic finished products, exports of additives for lubricating oils increased by four fifths over the six-year period to $125 million, even though the advance last year was only marginal. Basic inorganics were also a major export item, rising slightly faster than the average for all chemicals. Notable gains were made in foreign sales of alumina and caustic soda. The former is primarily used in aluminum manufacture but is also important in the production of other chemicals as a catalyst and as an intermediate. Caustic soda is used as a chemical intermediate, in petroleum refining, and in the manufacture of a variety of products including paper, rayon, soap, and vinyl plastics.

Fertilizer performance slips

Manufactured fertilizers were among the less expansive exports during these years. Shipments reached their peak in 1968 and, after declining for two years due to diminished funding by AID, rose moderately as demand strengthened in 1971. The poor performance is partially related to the difficulty of U.S. producers in bidding on foreign orders with deadlines coinciding with periods of strong seasonal demand for fertilizers at home. During the first six months of 1972, however, exports of fertilizers were running well ahead of the corresponding period for 1971.

Sparked by vigorous expansion in antibiotics, foreign sales of medicinal and pharmaceutical products increased by more than two thirds from their 1965 value to a high of $420 million in 1970. The small decline last year is attributed at least in part to the widespread longshoremen's strikes. Exports of essential oils, perfume and flavor materials, and cosmetics totaled $90 million in 1971, as did shipments of soaps, cleaning and polishing preparations, but neither of these two product groups showed a particularly fast advance since the mid-sixties.

Brisk sales of U.S.-designed nuclear reactors to foreign electric utilities boosted exports of radioactive and associated materials, mostly nuclear fuel. After ranging between $40 million and $60 million annually from 1965 to 1968, shipments of these materials climbed sharply, especially in 1971. Principal outlets during the period of rapid expansion were West Germany, Japan, Switzerland, and France.

The EEC was the largest regional market for U.S. chemicals from 1965 to 1971 as

EEC Is Leading Market For U.S. Chemicals

Organics Lead U.S. Chemical Imports

	1971 Import Value	Increase from 1965	Share of total
	$ Million	Percent	Percent
Total	**1,612**	**110**	**100**
Organic chemicals	400	150	25
Inorganic chemicals	353	123	22
Manufactured fertilizers	205	83	13
Plastic materials	133	226	8
Medicinal and pharmaceutical products	119	105	7
Dyestuffs	106	179	7
Isotopes, excluding uranium and thorium	73	20	4
Other chemicals	223	58	14

well as one of the more buoyant. Combined shipments to the six member countries climbed by more than $360 million to $916 million, nearly one fourth of the total. Within the group, the Netherlands and Germany were the principal customers. Latin America, led by Mexico and Brazil, took some 20 percent of U.S. deliveries. Canada was the biggest single market, followed by Japan where U.S. sales have more than doubled since 1965.

Exports to Eastern Europe expanded several times over, but were only about 1 percent of the total.

Sales by subsidiaries jump

U.S.-owned plants in foreign countries are important outlets for parent company sales of chemicals. Based on data for 1966 (the most recent available), these subsidiaries accounted for roughly one third of overall U.S. chemical exports.

Sales by these foreign subsidiaries to all markets rose from $6.9 billion in 1965 to $10.2 billion in 1968, the latest year for which firm data have been compiled. Some 83 percent of such sales were made in the country of production and about 15 percent to third country outlets. Less than 2 percent was exported to this country, equal to well under 1 percent of total domestic sales by the U.S. chemical industry.

More than two fifths of total chemical production by subsidiaries originated in Europe, while Canada and Latin America each provided roughly another one fifth. The book value of U.S. direct investments in foreign chemical companies is estimated at $6 billion for yearend 1970, approximately double the 1964 figure.

Germany passes U.S.

The United States has ranked second to the Federal Republic of Germany in world chemical exports since 1969. The United Kingdom, France, and the Netherlands are next in line, while Japan, Belgium, and Italy are also important suppliers. During 1965-71, Germany, in increasing its exports of chemicals by one and one-quarter times to $4.5 billion, scored the largest absolute gain in deliveries. Shipments by both Belgium-Luxembourg and the Netherlands grew even faster but were well under half the German level in 1971.

U.S. imports of chemicals increased considerably faster than exports since 1965, more than doubling to $1.6 billion in 1971. The inflow of basic organics, which accounted for about a quarter of the total at the end of the period, increased by 150 percent. Basic inorganics rose nearly as rapidly to reach $353 million. Plastic materials and, due in part to Kennedy Round tariff reductions, dyestuffs were the fastest-growing imports but each represented less than 10 percent of the total.

Canada still chief supplier

Canada remained by a wide margin the principal source of U.S. chemical imports. In 1971, these amounted to $397 million. Arrivals from most other major suppliers advanced at a more rapid rate, with Japan and Germany leading the way. Imports of Japanese chemicals particularly soared, rising by more than 300 percent to nearly $200 million in 1971.

The United Kingdom was the fourth principal supplier, followed by France and Switzerland.

Nearly half of the chemical imports from Canada consisted of fertilizers, with basic organics the next largest group. The leading purchases from Germany were organics, dyes, and plastic materials. Those from Japan fell into the same general groups except for the dyes. The organics to a significant extent consisted of benzenoid chemicals which are largely intermediates used in the production of dyes. Chemicals suitable for the manufacture of drugs were also an important segment of U.S. imports from Japan.

—Bureau of International Commerce

Publishing Empire Demonstrates How Minorities Can Succeed

Technical, Management Help More Important Than Money; Personal Commitment 'A Must'

Young black men and women can rise to the top in the business world in America.

This is the opinion of John H. Johnson, president of Johnson Publishing Company, Inc., publisher of *Ebony, Jet, Black Stars* and *Black World* magazines.

But, warns the publishing executive, they need more than money to make a success of any commercial enterprise they wish to enter.

"Technical and management assistance are more important than even financial help," asserts Johnson.

"And, in the end, if they don't have a personal commitment to make their business succeed, none of these will help."

Johnson, who is both editor and publisher of the four popular black magazines, notes that more and more persons and businesses are willing to help young black entrepreneurship today.

He particularly applauds the new Business Resource Center concept being developed across the country by the Commerce Department's Office of Minority Business Enterprise.

"This type of center gets businessmen and government working together to bring the right kind of technical and management assistance to minorities who want to go into business for themselves."

OMBE, to date, has established throughout the country seven BRCs, sponsored by prominent business leaders, Chambers of Commerce, and minority development organizations. Centers have been opened in New York City, Philadelphia, Detroit, Charlotte, N.C., Cincinnati, Chattanooga, Tenn., and Washington, D.C.

BRCs, with local sponsorship and Federal funding, are mobilizing, coordinating and deploying the resources of business on a volunteer basis in support of local minority enterprise business development. BRCs, while they will not package loan applications for submission to banks, Minority Enterprise Small Business Investment Companies, or other sources, will work with business development organizations and their clients, after the aspiring minority entrepreneur has access to capital, and work with them to furnish market, management and technical know-how in their chosen field.

NEW HOME—*This 11-story building (left) on Chicago's Michigan Avenue in the city's business district is the new corporate headquarters of Johnson Publishing Co. The headquarters took two years to build at a cost of $18 million for the building and its furnishings and is Chicago's first corporate building to be constructed by an all black firm.*

A BRC will also be an information center, and will identify opportunities for minority businesses, as well as seeking out commitments from corporations to procure from minority firms. It will develop talent banks to make available to minority entrepreneurs experienced business and professional assistance in management and technical areas.

OMBE hopes to have set up 50 BRCs in key cities across the Nation by the end of 1973.

50 is goal

Another BRC is to be established soon in Chicago, which is also the headquarters for the Johnson Publishing Company.

Johnson is pleased to see the center come to Chicago. "It's a great idea, and certainly will be of help to steer black men and women on the right paths toward business success."

Many young people who have come to him for advice on going into business, he said, have grandiose ideas. "They think in terms of starting a supermarket chain, when in reality they need to start small, such as in a neighborhood grocery store."

"Often," he continued, "they don't even have any experience in the type of business they want to start. When this is true, I tell them to go serve an apprenticeship—to learn the business by working in it and acquiring all the knowledge they can on how it is run."

Fisher award

John H. Johnson, who has just been named "Publisher of the Year" by the Magazine Publishers Association, Inc., and will receive the association's Henry Johnson Fisher Award during "Magazine Week"—Sept. 20-22—in New York City, is a shining example of a black man who has made it to the top.

Starting with $500 in 1942 (and that $500 his mother loaned him after mortgaging her furniture for that amount), Johnson has risen to head a multi-million dollar corporation today, which just moved its headquarters to a new $8 million prestigious building on Chicago's Michigan Avenue.

A monument to the success of the black publisher, the new building rises 11 stories high and is constructed of steel, concrete, marble and glass. Seven million was spent to construct the new offices of Johnson Publishing, and $1 million was expended for its furnishing. The 300 employees it houses refer to the building as the "home" of the company.

Floor to floor

From the lobby to the top, each floor grows more luxurious than the last in this new building which overlooks Chicago's Grant Park and affords a two-mile view of Lake Michigan shoreline. The corporate headquarters houses the editorial and graphic offices of all four magazines, as well as its chief photography studio and development offices. A quarter million dollar art collection by African and black American artists—one of the Nation's most extensive collections of such paintings and sculptures—are assembled all over the building.

A comprehensive far-reaching library, the offices of Johnson Publishing Company's new Book Division, the computerized circulation department, the headquarters of *Ebony*'s Fashion Fair division—which annually directs and produces some 80 fashion shows for charity—and its advertising, subscription, community relations and public affairs

department are all incorporated in this spectacular showplace.

The first office building in Chicago to be totally constructed by a black firm, the guidelines for its design were set forth by Johnson himself to include function, utility, beauty and comfort. John Moutoussamy, a black partner in the firm of Dubin, Dubin, Black and Moutoussamy, was the architect in charge of design and construction.

At the top of the building are Johnson's offices which include the corporate main office, a conference room, an executive dining room, a private apartment for the 24-hour-a-day executive and executive offices for the use of visiting officials.

Johnson, however, hasn't always been at the top. He admits he was in business for 15 years before he really quit "running scared." Black publishers weren't accepted easily by advertisers and he had to sell his company over and over again. It took a decade and a half before he could feel firm ground beneath his feet and realize Johnson Publishing was really here to stay.

Today's success

The success of the corporation today he attributes to a pioneering spirit that comes from within, a determination to succeed, dedication to the business and, above all, honesty, keeping his word, and delivering what he promised.

As far back as the publishing executive can remember, journalism and publishing dominated his interest. In high school he was a member of the staff of the school paper—its editor in chief his senior year. In college, he leaned toward journalism courses, working as an office boy at an insurance company, to afford these classes. After college he joined the staff of the same insurance company—the Supreme Life Insurance Company of America—working his way up in the house magazine department to become its managing editor.

Part of his duties with the insurance company included culling through magazines and other publications to compile a digest of articles concerning the Negro in the United States. It was while involved in this task he realized the void in writing about and for Negroes and conceived the idea for his first magazine, *Negro Digest,* which from its beginning has given a voice to people who before had no voice of their own—black writers and poets who found in Johnson's first magazine an outlet for their short stories, poetry, essays, editorials.

GETTING IT OUT—*The graphic arts department in the new Johnson Publishing Co. building has every tool at its fingertips to produce professional, outstanding layouts and design that have fast become one of the trademarks of its black publications. Shown at work are (from left) Cecil L. Ferguson, Assistant Art Director, JPC; Norman L. Hunter, Art Director of Jet and Black Stars, and Herbert Temple, Art Director of Ebony and Black World.*

As for starting his business with just $500, Johnson said he didn't know he couldn't succeed with that little capital, so he succeeded in spite of himself. White people contributed articles just by Johnson asking them. Eleanor Roosevelt wrote him an article entitled "If I were a Negro." Walter White, Carl Sandburg, Quinton Reynolds, A. H. Kiplinger are numbered among the magazine's famous contributors.

Black manuscripts came pouring in from all over the country. Johnson never suffered from lack of good materials. His first circulation for *Negro Digest* was 20,000 persons who bought the magazine for 25 cents a copy.

Today 1.2 million persons subscribe to *Ebony,* more than 600,000 weekly receive *Jet.* A 200,000 circulation is boasted by *Black Stars* (a woman's interest magazine formerly called *Tan*), and *Black World,* the new name for Johnson's first publication *Negro Digest,* has a monthly circulation of more than 100,000.

Johnson said his staff is committed to extending and improving all of the magazines. Minor changes are constantly made, original goals have been redesigned—because "we can't stand still. Business is like a merry-go-round, we must keep moving.

"We make mistakes, too—but we are quick

LOBBY ELEGANCE — *Mrs. Vernetta Northcutt, Johnson Public Affairs, is shown in the lobby of Johnson Publishing Co. The reception area for the new building features custom-built furniture where people can wait in comfort for appointments with members of the staff of the black-owned company.*

to admit them and correct them," he says.

He points out that both business and government are willing to help. "All you need to do is ask." Both *Time* and *Life* were extremely cooperative and helpful in Johnson's company's development.

"I could always talk immediately to Henry Luce when I called," he recalls.

For the future, plans are in the works to publish a magazine for children. Researchers are investigating format, trends, types of articles now.

In addition, the Johnson Publishing Co. has other interests today. Johnson is president and chief executive officer of Supreme Life Insurance Co., the same company he worked in as an office boy. The publishing company also owns a cosmetic firm and a wig manufacturing corporation.

Why did he succeed? Because he had the experience and education, the desire to learn (he took further courses in publishing and journalism while beginning his business, even taking his own problems to class for discussion), and because he had a commitment—to give the public what it wants. And he is proof—from his humble beginning in a tiny storefront office in Chicago to a towering magnificent edifice for the corporation today—that black persons can make it to the top in the U.S. free enterprise system.

—Office of Minority Business Enterprise

HALL OF SUCCESS—*The executive suite of John H. Johnson, president of Johnson Publishing Co., pays tribute to the black publisher's climb to success. Johnson's main office where he is pictured, shows off futuristic interior design ideas—one wall is of hand-set suede—and several pieces of the $250,000 collection of African and Afro-American paintings and sculptures featured in other parts of the building.*

DOMESTIC BUSINESS REPORT

- Peterson outlines growth measures
- Steel industry's environmental goals
- Record flow of foreign visitors dazzles travel industry
- Almost half of U.S. workers white collar
- Computerized service becomes giant

Peterson Outlines Growth Measures

Asserting that the nation is well on its way towards the vigorous economic climate the President's tax incentives were intended to create, Secretary Peterson has urged businessmen and security analysts to begin "taking a longer view."

The Secretary of Commerce, addressing a recent meeting of the Securities Industry Association in New York, explained measures taken by the Administration to assure that the United States maintain and improve its competitive posture in the world.

"The key step," said Peterson, "was to make tax changes which reduce the relative tax burden on investment and increased incentive to invest.

"Our major trading partners were taxing investments far less heavily than we were," Peterson said, recalling the economic scene two years ago. "In 1970, our tax system imposed costs on investment in plant and equipment by U.S. industry which were almost one third greater than those imposed by tax systems of some of our other competitor nations."

In fact, because of this country's tax structure, the cost of capital investment was higher in this country than in any of the major countries the U.S. trades with, Peterson stated.

"I don't argue that the system is perfect. . . . The performance of our system to date warrants a healthy measure of respect for the process by which it was achieved. It can be coaxed, it can even be bribed. But it cannot be whipped."

—Peter G. Peterson

He explained that the investment tax credit was reinstituted, and accelerated depreciation schedules were initiated.

He added that even with the investment tax credit and the faster depreciation schedules, the tax burden on capital investment is still higher in this country than in all of its major trading partners.

"One result of these tax changes, together with an expansionary budget, has been extremely healthy," Peterson added further. "Real Gross National Product growth for the latest three quarters was at a rate of 7.4 percent, higher than that of our major competitors and substantially higher than our own growth rate in 1971."

Moreover, investment in plant and equipment will increase by about 10 percent this year compared to only two percent last year. And, contracts and orders for plant equipment are up 26.7 percent, comparing July 1971 with July 1972.

New capital appropriations are

up 26 percent comparing the second quarter of 1972 with the second quarter of 1971. And productivity in the total economy in the second quarter was up 6 percent, compared with only 2 percent for the same period a year ago, he reported.

Productivity

Noting that the U.S. citizen's real standard of living is three times that of his or her Soviet counterpart, Secretary Peterson said one factor which contributes to this disparity is productivity.

In 1971, despite enormous investments in machinery and people, the Commerce Secretary said, the productivity of labor in Soviet agriculture was only 11 percent that of the United States.

"I am convinced that one of the most important factors is that the Soviet system simply does not provide the worker with the same incentives as ours to do his job well and efficiently," Peterson continued.

He cited another example, Great Britain, where, as responsibility for production was increasingly assumed by the Government through nationalization, social costs mounted, productivity fell, and inflation ran and continues to run rampant.

It has been President Nixon's position that synthetic jobs (jobs that never catch hold, that require annual resuscitation through the appropriations process, and often contain the seeds of their ultimate extinction . . .) are a response to a misperception and are themselves a delusion, Secretary Peterson asserted.

Through programs such as the Commerce Department's Office of Minority Business Enterprise, the Nixon Administration has sought to commit federal resources to create jobs that will bring people into the system.

"These people want a role in the system, not a handout at its periphery," he asserted further.

Opting for a "longer view," Peterson said more than anything else, one is judged by the financial community by his short term successes—quarterly reports and ratios.

"The Voodoo spell of the cult of 'instant performance' has been, and is, powerful magic," said Peterson. "Concern for longer term problems and for the future climate in which business will be operating—or not operating, as the case may be—are typically left to the second or even the third teams."

Citing business' "enormous communications problem" the Commerce Secretary concluded by "not just urging a super public relations campaign because if war is too important to be left to the generals, public understanding in a democracy is far too important to be left to public relations officers or politicians.

"America's top executives must also become involved because the system that put them on top is what's at stake.

"I happen to think preserving the system is important."

Four Of Five American Workers Drive, Or Ride, Cars To Jobs

Walking is the second most popular way for Americans in getting to their jobs—but it's a poor second to the automobile.

In "Mobility, Commuting and Veterans Status for the U.S.: 1970," the Census Bureau reported that 5.7 million persons regularly walked to work when the last census was taken in 1970.

If all mass transit systems are considered as one category, however, walking ranks third among the favorite commuting methods.

Some 59.7 million others said they drove or rode in a car to their job. About 4.2 million reported riding buses or street cars to work, 1.8 million rode subways or elevated commuter trains. Those using railroad transportation numbered 502,000, and 296,000 rode in taxicabs. Another 2.7 million persons worked at home.

The report mirrored the rush hour problems familiar to urban commuters. Even in central cities of urbanized areas where public transportation is most likely to be available, 69 percent of the commuters reported that the private automobile was their means of transportation. Only nine million persons listed themselves as passengers.

About 78 percent of all workers drove or rode in cars to their jobs compared with 64 percent in 1960, while the proportion using mass transit systems declined from 12 to less than 8 percent. The number of walkers declined in both absolute numbers and percentages: from 6.4 million, or about 10 percent, in 1960 to 5.7 million, or 7.4 percent, in 1970.

Mobile population

In 1970, the census study shows, 50.9 million persons, or 26 percent of the native U.S. population, were living outside their State of birth. The figure represents a continuation of the high level of mobility that has characterized the U.S. population.

Nearly half the total population five years old and over had moved at least once between 1965 and 1970. Nearly 25 percent of the total 1970 population had moved into their current residence since January 1969.

In 1970, 28.1 million, or 43 percent of the total civilian male population 16 years old and over were veterans. Nearly half had served during World War II. Those men who had served since World War II account for about a third of all veterans.

—Census Bureau

Steel Industry Asks Balance In Environmental Priorities; Report Recommends Federal Help

Hard facts and figures support the steel industry's commitment to clean up the environment as it moves forward in efforts to insure clean air, clean water, and the recycling of solid wastes.

John P. Roche, president of the American Iron and Steel Institute, notes that the steel industry fully understands and endorses the necessity for improving the quality of the environment.

Economic implications

"However, too little attention," Roche says, "has been paid thus far to the economic implications of an all-out drive toward pollution control, and its effect on other economic and socially desirable goals."

Roche points out that the steel industry is proud of what it has done and is planning to do more to improve the quality of the environment but, he stresses, *priorities must be balanced.*

According to the steel executive, the industry is seriously concerned with its financial ability to meet the projected costs of air and water pollution control facilities which must be installed just to comply with present existing air and proposed water pollution control requirements.

Roche does not believe that most segments of the industry can raise the necessary capital for these pollution control measures by retained earnings or even by adding to their debt structure. In addition to pollution control investment, it must continually invest in new plants and equipment just to keep the industry competitive both internationally and domestically.

A just released Steel Sub-Council report of the National Industrial Pollution Control Council confirms Roche's statement.

The report, The Steel Industry and Environmental Quality, points out that the steel industry would have to invest a minimum of $2.5 billion to meet the national ambient air standards, plus another $1 billion to comply with the latest proposed water pollution control legislation.

This expenditure, the report says, represents "eight times the total earnings of the industry during 1971 and almost as much as the industry has earned during the past five years."

The Steel Sub-Council report admits the industry is "deeply concerned with trends in Federal environmental programs and their administration." This concern, involves "unduly restrictive and unrealistically short time schedules for compliance, overlapping jurisdiction and harassment, and the resulting serious cost effects of all these."

Despite their leanest profits in many years, the report cites a recent AISI survey disclosing that U.S. steel companies have budgeted $320 million this year for air and water quality control facilities. Last year, environmental controls by the industry averaged 12 percent of its capital expenditures, a level which is expected to increase in the foreseeable future.

Report's emphasis

The views of the NIPCC Sub-Council report (which does not necessarily represent the view of the Commerce Department or any other government agency), also emphasize the fact that the industry is doing all in its power to clean up the environment from its pollutants. And the report lists dozens of case studies of steelmakers nationwide and the millions of dollars each has committed to cleaning up the environment.

"Through the years," the report states, "the industry has steadily developed and continues to inno-

OVERALL VIEW—*Republic Steel's waste water treatment plant on the banks of the Cuyahoga River is among the most modern in the world. The huge treatment plant is part of a strip mill complex at Cleveland, Ohio.*

LADLING IT OUT—*A mammoth ladle, filled with hot molten steel pours that steel into ingot molds at Bethlehem Steel Company's Baltimore area plant. Area steelmakers are spending billions of dollars on new plant and equipment to compete domestically and internationally, but they must also spend billions of dollars to clean up the air and water and eliminate solid waste.*

vate effective and ingenious methods for controlling, collecting and disposing of the enormous volumes of waste products that are a necessary part of its operation."

In the area of air quality control, nearly $800 million has been committed to continuing and expanding such programs. For instance, Bethlehem Steel Corp. is constructing a $5.5 million dust collection system which will control emissions from the electric furnaces at its Bethlehem, Pa., plant by more than 99 percent.

Interlake, Inc., has completed construction of two major air cleaning systems—one, a $2.2 million installation at the company's Newport-Wilder, Ky., melt shop, collects 99.3 percent of the particulate matter emitted by its furnaces; another, a $2.7 million bag house at Beverly, Ohio, is capable of collecting 99.7 percent of particulate matter.

Inland Steel Company has installed a $2.5 million bag house to remove particulates at its new electric furnace steelmaking and continuous billet casting shop at its East Chicago, Ind., plant—and this company has put into operation a 51 unit coke oven battery equipped with the latest in environmental control.

Industry's effort

These are only a few of the examples of what the steel industry is doing nationwide to control air emissions.

Water, a necessary part of the steelmaking process, is another concern for environmental cleanup of the steelmakers. The report notes that large quantities of clean water are indispensable to the manufacture of steel. Water, it points out, is used to cool, quench and clean "traditionally, about 35,000 gallons or more have been needed in producing one ton of finished steel."

More than $700 million has been committed by the steelmakers to continuing and expanding present water quality control and water conservation programs.

Allegheny Ludlum Steel's $2.5 million water-filtration system at its Brackenridge Works, will filter oil, grease and mill scale from 17,000 gallons of water per minute. A "new breakthrough in environmental control" is a $1.7 million system of Alan Wood Steel in Conshokocken, Pa.

This system removes substantially all pollutants from coke plant waste amonia.

Republic Steel has a new $18 million waste-water treatment plant to prevent the return of waste from Republic's Cleveland, Ohio, strip mill operations to the Cuyahoga River.

In recycling solid wastes the steel industry is giving full cooperation. It is working together with the scrap and transportation industry, according to the NIPCC report. This endeavor is being conducted in conjunction with the junked-car disposal problem, to facilitate the last step of the process —remelting of the junked car.

The scrap industry has assisted in the development of shredders

Members of the Steel Sub-Council of the National Industrial Pollution Control Council responsible for the latest steel report include Reynold C. MacDonald, president and chief executive officer, Interlake Steel Corp., chairman; Willis B. Boyer, president and chief executive officer, Republic Steel Corp., vice chairman; Stewart S. Cort, chairman, Bethlehem Steel Corp.; W. Martin Dillon, president, Northwestern Steel and Wire Co.; Edwin H. Gott, chairman, United States Steel Corp.; Frederick G. Jaicks, chairman, Inland Steel Co.; George A. Stinson, president, National Steel Corp.; and C. William Verity, Jr., president, Armco Steel Corp.

and facilities to separate the non-steel portion of the shredded material so that a more satisfactory steel scrap can be prepared for recycling to steel melting furnaces.

And in June 1971, the report states, the steel industry announced establishment of 80 can-collection centers in 39 cities in 13 states to accept all kinds of cans regardless of their composition. These steel company centers will complement the 164 collection locations already established by the can-manufacturing industry.

The report lists many other such programs.

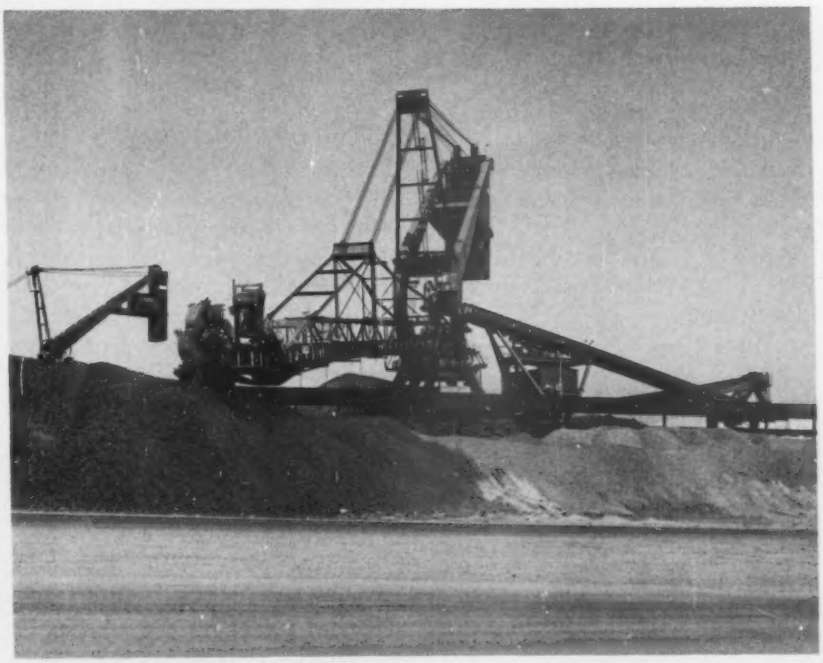
In its conclusion, the Steel Sub-Council report, prepared for the President and the chairman of the Council on Environmental Quality, recommends:

- Governmental regulatory agencies should be required to set standards at levels that are of total benefit to society, taking into account health, social, economic and technical aspects. Most standards are now being based on attaining high efficiency removal of waste substances from air and water. However, for any given substance, the incremental benefit to society of going from, for example, 95 percent removal to 99-plus percent removal should be balanced against the additional cost to society measured against actual benefits. The cost-benefit relationship should be determined through scientific investigation for the efficiency of removal required by regulation being developed.
- The Congress should be encouraged to create a long-term low-interest loan program, featuring a $3 billion revolving fund to provide for the construction of industrial pollution abatement systems. This would not be a direct grant plan, but simply a loan program to accelerate purchase of pollution abatement equipment.
- Construction and demonstration grants for combined municipal-industrial treatment plants, or regional-industrial treatment plants would also assist in efforts to solve environmental problems.
- In regard to the serious problem of financing environmental programs, any new environmental control legislation should include the option to exempt, for federal income tax purposes, the expenditures for non-productive pollution control facilities.
- Regulations should be "set" for some definite period into the future so companies know what to design to, and so that all the facilities installed in recent years are not found to be in violation of ever changing and more stringent regulations.

Copies of the report are available for 30 cents each from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Roche, the AISI president, feels the future looks bright. He said "the Iron and Steel Industry is a basic component of the industrial strength of America.

"We will continue," he stressed, "to do our full share but we hope that the continually changing legislation and regulations we must comply with will permit us to maintain a viable economic and competitive position, yet strong enough to carry us closer to the goals we all strive for—a cleaner environment."



RECLAIMS MATERIAL—*Two giant stacker-reclaimers are in service at this steel plant at Burns Harbor, Ind. The belt-automated units, which run on rails, stock and reclaim raw materials for use in the two blast furnaces at the plant.*

Want To Cut Down IRS Funds? Get Tax 'Bonus' Opening New Jobs

American businessmen appear to be leaving largely untouched a new federal income tax "bonus" which would have saved them as much as $20 million if it had been in effect last year.

The Job Development Tax Credit was added to the law by the Revenue Act of 1971 and may be claimed by private employers who hire workers under the Work Incentive or "WIN" program.

Tax credit

The credit, applied directly against taxes, is equal to 20 percent of wages paid these employees during their first 12 months on the job, consecutive or not. Persons employed under WIN last year were paid almost $100 million in salary and wages—and 30 percent of this is the $20 million that could have been saved if businessmen had had this advantage last year.

The credit does not affect an employer's deduction of the wages as a business expense — making the new tax credit even more of a bonus. And there are relatively few strings attached.

Credit is claimable for tax years beginning after Dec. 31, 1971. It cannot be claimed on any portion of the wages for which the employer is reimbursed.

The Labor Department must certify that the employees are hired under the WIN program and do not displace other workers. Also, the employees cannot be close relatives of an employer, nor be hired as a household worker.

Although the credit is lost if the employee is terminated during the first 12 months or the following 12 months, this is not as restrictive as it sounds. The credit is NOT lost if the employee is fired for misconduct, quits voluntarily, or becomes disabled and unable to work.

The amount of credit that employers can take is limited to their income tax liability, up to $25,000. But in any year, if tax liability exceeds $25,000, credit can be claimed on 50 percent of the tax liability in excess of $25,000. Amounts of credit now allowable because of this limitation may be carried back three years and forward seven years, exactly as in the investment tax credit, with which businessmen are familiar. No unused credit may be carried back to a tax year beginning before 1972.

The main other qualification is that persons employed for tax credit must be paid the same wage as other employees performing comparable services for the employer.

An example of how the tax credit works is an insurance agency owner who hired two clerk typists July 1, 1972, and pays each $6,000 a year. When he files his return for tax year 1972 next January, he can claim a total credit of $1,200, which is 20 percent of the $6,000 he pays the two employees between July 1 and Dec. 31. The $1,200 credit for the remaining six months he will claim when he files his return for the 1973 tax year.

Credit explained

If he should decide to cut back his business and lay off one of the workers before the full 24 months have elapsed, the entire $1,200 tax credit must be added back to his income tax. If, on the other hand, the worker resigns to take a better job, becomes disabled, or is fired for misconduct, the employer keeps the credit.

An illustration of the carryover feature of the tax credit is the large manufacturer who hires enough workers to build up a tax credit of $100,000 for tax year 1975. The employer takes the full $25,000 plus half the remaining $75,000 or $37,500. This makes a total of $62,500 he claims against his liability for that year. The other $37,500 can be carried back three years—or only to taxable years beginning after Dec. 31, 1971. This $37,500 excess credit would be applied first against any tax liability existing for tax year 1972. Then, if any credit remained it would be applied against subsequent tax years, right on up through tax year 1982—for the full seven-year carryover.

Businessmen interested in hiring a person for tax credit should contact their nearest State Employment Security office, which can refer qualified job applicants and arrange for the certification that they are being hired under the WIN program.

Hundreds of thousands of these workers, possessing a variety of job skills, are available. The new tax credit is intended to open up jobs and make it possible for more persons to end their dependence on public welfare.

Employers may take the credit into account in computing their 1972 estimated tax liability.

A tax schedule for employers to submit to the Internal Revenue Service for the tax credit will be issued by the IRS in time for filing with 1972 income tax returns. Further information can be obtained from local Internal Revenue offices.

"Franchise Opportunities Handbook," lists more than 400 U.S. franchisors who have pledged their firms to equal opportunity practices.

It is the seventh edition of a Bureau of Domestic Commerce publication formerly called "Franchise Company Data." Through its Office of Minority Business Enterprise, the Commerce Department plans wide distribution of the handbook which lists franchisors who have agreed not to discriminate; have been in business for at least three years; and have three franchisee-owned outlets in operation. ***—BDC***

Banks Becoming Largest Users Of Computerized Data Services

Indications are that the American banking industry will be the largest commercial user of data terminals and other data communication equipment during the 1970s.

The statement is from a new publication of the Department of Commerce's Bureau of Domestic Commerce, Data Communications Market Information Sources, a marketing guide to this rapidly growing business.

Rapid growth

One reason for computerized communications' rapid growth in banking is that U.S. banks now process more than 22 billion checks a year and each check is handled an average of eight times.

"This with the expanding volume of other types of transactions is requiring the banking industry to vigorously pursue the use of electronic data processing in a monetary and payments system," the report states.

"These systems include exchange of paperless entries by depositors and between banks, point of sale terminals with direct bank connections, automatic payroll deposits, standardization of bank credit cards, a national system of electronic credit card authorizations and similar activities," it adds.

The American Bankers Association is coordinating a large part of the work in this area for the private sector. The Federal Reserve system also has several evaluation projects under study.

Other sectors of the U.S. economy listed in the publication as showing greatest promise of rapid growth in this decade are time-sharing and information services, retail trade, securities, insurance, health, and transportation.

In addition to material on users, the publication contains sections on market research studies and services, including reports offered by market research firms or their resources to make such studies; trade and professional associations, such as organizations concerned with any segment of a data communications system; trade publications, newsletters, and directories; U.S. Government publications and data sources; foreign production and trade statistical sources, production and trade product codes.

BDC's Communications-Electronics Division compiled the report and plans to update it periodically.

Data Communications Market Information Sources is available at 60 cents a copy (Stock No. 0308 0151) from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

—Bureau of Domestic Commerce

MICROWAVE TOWER—*This microwave tower, shown under construction, is today relaying messages across the Nevada desert into California. It is one of American Telephone and Telegraph Company's contributions to communication.*

HAND HELD WAND—*The size of a ballpoint pen, this wand reads merchandise price tags, credit cards and salesperson identification badges. Revolutionary approach of NCR 280 retail system eliminates up to 90 percent of the manual key-indexing formerly required to record sales. Data collected at point of sale is subsequently processed by computer for customer billing, inventory control.*

Trade Associations Join Drive To Create Minority Businesses

Trade associations, ranging from shoe retailers to shopping center executives to menswear retailers, are teaming up with the Department of Commerce's Office of Minority Business Enterprise to provide new opportunities for minorities in the business world.

Shoe retailers

The National Shoe Retailers Association recently received a two-year $431,815 contract from OMBE to identify business opportunities for minority ownership of retail shoe stores and to provide counseling services to existing minority-owned shoe stores.

"Under its excellent leadership the association has demonstrated a keen awareness of the needs of minority businessmen and a capability of providing the skilled assistance to meet those needs," John L. Jenkins, OMBE director, commented on the program.

Under the contract NSRA, headed by Frank H. Rich and headquartered in New York City, is to promote the transfer of 20 existing retail shoe stores to minority individuals in the first year of operations, doubling the number of transfers to 40 in the second year of operation.

The association plans to solicit commitments from owners of existing stores to transfer ownership to minorities and to assist the prospective owner in negotiating the transfer.

NSRA also will give ongoing management and technical assistance to transferees, including counseling in all phases of business operations.

Earlier this year Menswear Retailers of America, a 56-year-old national trade association of more than 7,000 members, signed a similar contract with OMBE. As part of its Ownership Opportunity Program the national menswear retailers organization is seeking to place qualified minority clothing retailers as owners and operators of going business concerns.

Last year 50 new minority-owned clothing stores were opened under the program and the association expects 30 more will be established this year.

According to MRA officials the association hopes to match qualified minorities who have reached the buyer or divisional level in large stores with an operating store doing $200,000 to $1 million in annual sales. One objective of the program is to fill downtown stores where merchants have been unable to adapt to market changes or have moved to suburban locations or gotten out of the business entirely.

Acquisitions of five stores, including three owned by Mexican-Americans and two by blacks, is presently under way.

SHOE RETAILER — *William J. Sweet Sr., a client of the New York Chapter of the Interracial Council for Business Opportunity, recently opened the Buster Brown Bootery at 108 W. 124th St., next door to the Harlem Bootery which he purchased 18 months ago. He is shown fitting a customer.*

On another front the International Council of Shopping Centers recently sponsored an educational program to prepare minority group persons for available executive training jobs as managers, promotion directors and leasing agents for the Nation's 14,000 shopping centers.

The program, called Executive Development Institute for Minorities, held an 80-hour training program in August, in conjunction with its management and promotion institutes at Michigan State University.

"This Institute is a pioneering effort by the International Council of Shopping Centers to expand job opportunities at the executive level for minority trainees in the nation's shopping centers," according to Albert Sussman, executive vice president of ICSC.

Among the first graduates of the Institute are 14 blacks, one Mexican American and one American Indian. They have been placed in training positions as shopping center managers, leasing agents and promotion directors in nine states.

Plans for second

Plans are in progress for the second institute, scheduled for March 11-13, 1973 at Notre Dame University, South Bend, Ind.

The 1973 Executive Development Institute will again be held in conjunction with the Council's Basic Management Institute, Advanced Management Institute and Promotion Institute.

"ICSC is now canvassing minority groups, schools and media for candidates to participate in this free scholarship program," the council stated.

To be eligible for the 1973 EDIM program candidates must have education or experience in business, management, real estate, accounting, law, advertising or media.

—Office of Minority Business Enterprise

Record Flow Of Foreign Visitors Dazzling U.S. Travel Industry

Prospects for travel industry suppliers who cater to tourists from abroad have never been better, according to James L. Hamilton III, Acting Assistant Secretary of Commerce for Tourism.

Visit U.S.A. arrivals are up, and the growing array of Bicentennial Era pageants and festivals is about to give tour operators more U.S. attractions to package and promote, Hamilton stated in a recent address to over 600 U.S. and foreign travel executives attending the 1972 Discover America "Pow Wow" in San Diego.

Visitors spending

It is estimated that all visitors during the first quarter spent more than $500 million while here.

In June, the first month of the traditional summer travel season, European visitor arrivals were up 36.3 percent—the largest increase for the month of June in over a decade, Hamilton stated.

The U.S. hosted 147,324 European visitors in June.

"Inbound arrival volume from Germany, alone, was 47 percent higher than last June's total," Hamilton stated. "Traffic from France was 45 percent higher; from the U.K., 44 percent higher. June arrivals from Japan were up 37 percent over the 1971 level."

The Assistant Secretary for Tourism said that "several factors" had no doubt contributed to recent dramatic rises in foreign visitor volume. "But currency adjustments during the last nine months constitute one of the major identifiable variables in the travel picture which has changed during the year, and have obviously played a role in the traffic increase.

Visitors to the U.S. from all overseas countries in June totalled 288,974, up 23.9 percent over the same month last year. This brought the total number of overseas visitors for the first six months of this year to 1,240,138, an increase of 14.4 percent over the same period in 1971, while visitor arrivals from Mexico (not included in the overseas figure) increased 20.6 percent, for a six-month total of 646,514.

The top ten overseas tourist generating countries during the first six months of 1972 were:

Japan, 185,917 visitors; United Kingdom, 155,578; Germany, 103,851; France, 64,880; Italy, 55,508; Bahamas, 42,727; Australia, 40,443; Colombia, 29,043; Netherlands, 27,172; and Venezuela, 27,154.

An estimated 25 million foreign visitors are expected to visit the United States during 1976. Hamilton urged tour operators to begin planning Bicentennial travel programs promptly.

"Timing and planning are going to be important," Hamilton concluded, "and it takes time and effort to gear up." —*USTS*

Energy Fuels Pace Big Rise In Use Of Raw Materials

A striking increase in the amount of raw materials consumed per person in the U.S. has occurred in this century, according to a report by the Census Bureau, and the rate of increase has accelerated in recent years.

The use of raw materials in the United States quadrupled in 70 years. The report valued the materials in constant 1967 dollars to adjust for price changes. Since the U.S. population is now 2½ times larger than it was at the turn of the century, there was a 50 percent increase in raw materials consumption per person.

Per capita consumption of raw materials increased about $70 from 1900 to 1960—from $227 to $297—but it jumped another $40 in the 1960s.

The greatest increase over the 70-year period was in energy materials, such as oil, gas and coal, which tripled on a per capita basis. Per capita consumption of food materials increased only 16 percent and physical structure materials by only 44 percent.

During the 1900-1904 period, energy materials were 15 percent of all raw materials consumed, but by the 1965-69 period, they made up 27 percent of all materials used.

Meanwhile, foods declined from 60 to 47 percent of the total, and physical structure materials remained at 26 percent in both periods although units in each major category showed marked changes over the 70 years.

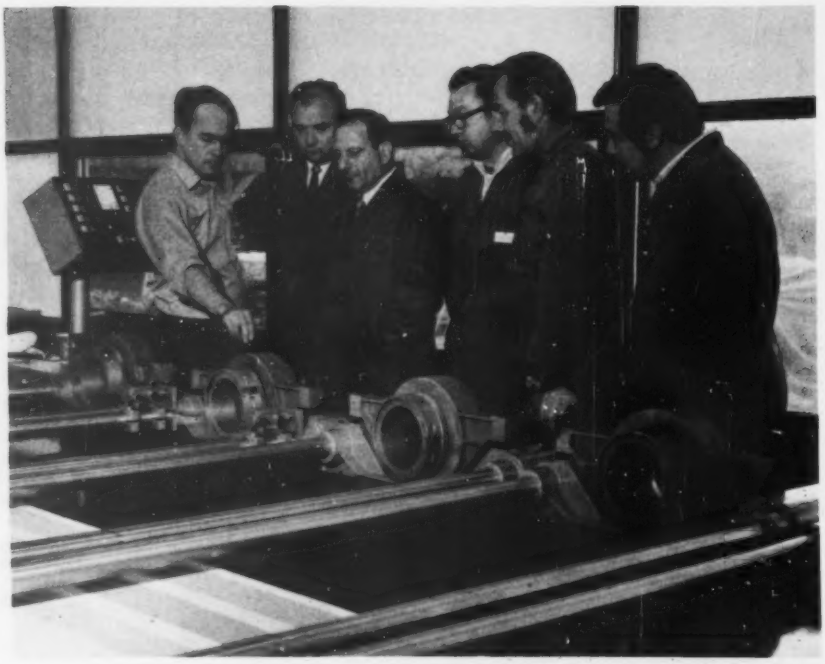
For instance, the use of wood for fuel has dwindled to less than 1 percent from about 37 percent of all energy materials consumed in 1900. Oil and gas, little used at the start of the century, now account for 86 percent of all fuels used, greatly exceeding coal which predominated in 1900.

The estimated value of all raw materials consumed in 1969 was $68.6 billion, compared with $17.4 billion in 1900, expressed in 1967 dollars. Agricultural materials made up 51 percent of the 1969 total, all minerals, 41.8 percent; forest products, 5.2 percent; and fisheries and wildlife products, 1.9 percent.

The change of status of the United States as an exporting country to a net importer is shown in a table indicating a seven-fold increase in imports while exports increased only two and one-third times, with mineral fuel imports soaring to $3.5 billion from $14 million 70 years earlier.

Leading export dollar earner, at $4 billion, is the agricultural crops category, although all other materials listed, except sawlogs, showed some increase over the 70 years.

—*Census Bureau*



JOBS FOR VETS—*Five former U.S. servicemen are being trained by Buser AG, of Utzenstorf, Switzerland, a manufacturer of flat and rotary textile printing machinery. After a year's training these veterans will join Buser AG's U.S. manufacturing subsidiary being established in Greenville, S.C.*

Vets Train For Jobs... In Switzerland!

Jobs and training opportunities for American veterans can crop up in the most unexpected places —even Switzerland, according to the National Jobs For Veterans Committee.

In a unique program sponsored by Buser A. G. Machine Tool Co., a well-established Swiss manufacturer of textile printing machines, five American veterans are being trained to service the machines which have been marketed in the United States. And at least eight more servicemen about to be released from duty will be recruited for the next one-year program.

An Airgram from Shelby C. Davis, U.S. Ambassador to Switzerland, outlined the program which began in May 1971 when the manufacturing company began scouting for U.S. servicemen based in Europe who were nearing the end of their commitments and who had mechanical maintenance background.

This offer included a European release, something of a departure from the normal military procedure, plus free housing, use of a car, and a training wage of $1.60 per hour. Buser also promises return transportation to the United States and steady employment at a salary ranging from $160 to $200 per week upon successful completion of the course.

Buser has a substantial market for its textile printing machines in the United States and Heinrich Voegelin, president, says his company will open a subsidiary in Greenville, S.C.

"Whereas the Buser program is small in concept," Ambassador Davis points out, "it is likely that other European firms with subsidiaries in the U.S. may follow their lead."

The National Jobs For Veterans Committee carries out President Nixon's program to place the thousands of returning servicemen on civilian jobs.

—Jobs For Veterans Committee

Pamphlets Tell Inner City Residents How To Set Up Businesses

Eighteen profiles on businesses, ranging from beauty shops to savings and loan associations, have been published by two Commerce Department agencies to help inner city residents launch and expand businesses.

Each pamphlet includes basic information that will help the prospective businessman or organization plan new ventures. It also includes information on problems and pitfalls related to these businesses. The pamphlets list affiliates of Commerce's Office of Minority Business Enterprise.

Urban profiles

Published by the Economic Development Administration in cooperation with OMBE, "Urban Business Profiles," are available on beauty shops, bowling alleys, building service contracting, children's and infants' wear, contract construction, contract dress manufacturing, convenience stores, custom plastics, dry cleaning, furniture stores, industrial launderers and linen supply, machine shop job work, mobile catering, pet shops, photographic studios, real estate brokerage, savings and loan associations and supermarkets. A pamphlet is also available on preparing a business profile. *—EDA*

Ombudsman For Business

Businessmen who need assistance in their dealings with the Federal Government now have a central office in Washington, D.C., to write or call for information, suggestions, or even for registering complaints —the Commerce Department Ombudsman for Business.

All inquiries should be addressed to the Ombudsman, Thomas E. Drumm, Jr., Special Assistant to the Secretary, U.S. Department of Commerce, Washington, D.C. 20230, or call 202-967-3178.

Only One In Five Americans Now Classed As Foreign Stock

Although most Americans classed as foreign stock in the 1970 census were of European origin, the biggest increase in U.S. foreign stock in the last decade was among Asians and Latin Americans, a new census study shows.

From 1960 to 1970, the number of Americans of foreign stock declined from 34.0 million to 33.6 million while the total U.S. population increased 13 percent. As a result, only one American in six was of foreign stock in 1970 compared to one in five in 1960.

"Foreign stock," according to the Census Bureau, is persons who were born abroad or children of persons born abroad.

The number of Cubans increased from 124,416 in 1960 to 560,628 in 1970. About 45 percent of the Cubans, or 252,520 persons lived in Florida.

Of the 33.6 million persons in the United States counted as foreign stock in 1970, 70.1 percent were of European origin. Italy contributed the most of any nation to the U.S. foreign stock total with 4,240,779 persons. Germany was second with 3,622,035 persons, and Canada, third, with 3,034,556 persons.

The United Kingdom, Ireland, Poland and the Soviet Union were each represented in the U.S. foreign stock by 1.5 million persons or more.

In 1970 the Chinese foreign stock numbered 339,243, compared to 208,455 in 1960. The Japanese foreign stock totaled 393,789 in 1970, up from 322,090 in 1960.

Almost Half of U.S. Workers Now Hold White Collar Jobs

Nearly half of all employed persons in 1970 held white collar jobs and the proportion was considerably more than half for workers who lived in the suburbs.

A new study of data from the 1970 census shows the total of persons 16 years old and over in white collar jobs in 1970 was 36,908,425, which was more than 48 percent of the 76.6 million workers in all occupations at the time the census was taken. In the 1960 census, only 41 percent were white collar job holders.

Fifty-seven percent of all white collar workers counted in 1970, were in the urban fringe, according to the Census Bureau. In numbers, the total was 12.1 million white collar job holders out of 21.4 million in the urban fringe.

Women accounted for 30 million or 38 percent of the employed labor force in 1970. They held 41 percent of the jobs in central cities of urbanized areas and 33 percent of all jobs in rural areas. Sixty-one percent of all employed women were white collar workers, and in the urban fringe, 70 percent of all the women who worked were in white collar jobs.

The number of people in major occupational groups in 1970 were:

Professional, technical and kindred workers, 11.3 million; managers and administrators except farm, 6.4 million; sales workers, 5.4 million; clerical and kindred workers, 13.7 million.

Blue collar workers in 1970 accounted for 27,488,541, or about 36 percent of the total. Major blue collar groups and their totals are:

Craftsmen, foremen and kindred workers, 10.6 million; operatives except transport, 10.5 million; transport equipment operatives, 3 million; laborers, except farm, 3.4 million. —*Census Bureau*

Calendar For Businessmen

Sept. 24-27—San Antonio, Tex.—National Defense Transportation Association 27th annual transportation and logistics forum and exposition.

Sept. 24-28—Washington, D.C.—Third International Conference and Exhibition on Liquefied Natural Gas. Robert J. Blackwell, Assistant Secretary for Maritime Affairs, will speak Sept. 26.

Oct. 4—Houston—American Merchant Marine Conference and Propeller Club of the United States Annual Convention.

Oct. 22-26—Miami—American Association of Port Authorities annual convention.

Oct. 31 — Philadelphia — Minority Enterprise Federal Procurement Conference. For information, Luis Encinas, Office of Minority Business Enterprise, Department of Commerce, Washington, D. C., 20230. Phone: 202-967-3936.

Booklet Steers Small Firms Past Management Shoals

Helping a small firm untangle its management problems and stay in business is the subject of a new booklet published by the Small Business Administration.

"Strengthening Small Business Management," in a down to earth style, tells how to recognize and take advantage of an opportunity, organize a business for action, what changes should be made and how to measure results. This guide, which recommends methods of improving management techniques, is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, for $1.00.

—*Small Business Administration*

SCIENCE & TECHNOLOGY REPORT

- **Traveler weather forecasts begin for 88 cities**
- **Caltech Sea Grant to help $10 million kelp industry**
- **Meteorite magnetism study may explain birth of solar system**
- **Compulsory patent licensing seen hurting incentives**
- **Airborne team's "electronic eyes" inventory resources**
- **Cannikin's nuclear test may spur quake prediction**

Pollution Control Market To Grow Rapidly

U.S. industry will need to spend more than $18 billion to bring its existing facilities up to the standards of air and water pollution control in effect. This is the prediction of a new study of the air pollution control market published by Frost & Sullivan, Inc., international industrial marketing and research consultants in New York.

A similar report has been published by the firm concerning the solid waste control market.

Markets for air pollution control equipment will grow at a rapid rate from a level of $150 million in 1970 to $600 million by 1980, says the report. Markets for fabric filters and wet scrubbers will increase at a higher rate than the markets for electrostatic precipitators, they estimate.

Other points made by the Frost & Sullivan study:

Total market for all types of air pollution control instrumentation will be about $525 million between 1970 and 1980. The market for ambient level monitoring will total $73 million. Instruments for measuring stationary source emissions will total about $152 million and for automotive emissions $180 million.

Initial cost increased

Standards being adopted for 1975 and 1976 models will increase the initial cost of an automobile by at least $240 and operating costs will increase at least $21 per car per year. Operating costs will be even higher if lead-free gasoline is required. Cost of gasoline would have to be increased from 5½ cents to 7 cents a gallon. Coupled with the loss in efficiency with the use of this gasoline, the total cost will probably be in the range of $10 billion per year in the early 1980s, equivalent to about $800 per vehicle per year.

Governmental programs are continually expanding. The President has requested $171.5 million for air pollution control in fiscal year 1973. State and local air pollution control programs budgeted more than $67 million in fiscal 1971, about $27 million of which was grants from the federal government.

Private and industrial programs have also continued to increase. Industries planned to spend $925 million for research and development related to pollution control, both air and water, during 1971, an increase

FINAL FILTER—*This fiber glass final filter removes small particles of lead and other matter from the exhaust of automobiles in the particulate emission control system being developed by PPG Industries of Pittsburgh. Technician Simon Gonzales, wearing gloves for protection from heat, inspects the prototype filter unit on a test car that has just completed a tour of freeways and city streets in the Corpus Christi, Tex., area. PPG is expanding its test program for the system, which it says traps particles as small as 1/100,000 of an inch. According to the firm, this system could permit the continued use of lower-cost leaded gasoline while eliminating the automobile as a source of atmospheric lead. It would replace the conventional exhaust system now used on autos.*

of more than 25 percent over actual expenditures for 1970.

It has been estimated that the annual toll of air pollution on health, vegetation, materials, and property values is more than $16 billion annually, about $80 for each person. The cost is probably twice as high if intangible effects and hidden costs are included.

During the last five years, many industries have increased their annual expenditures by more than 20 percent per year. The petroleum industry spent $702 million; iron and steel, $431 million; chemicals, $371 million; and paper, $325 million. These five industries accounted for about 57 percent of all expenditures by the manufacturing industries.

Electric utilities had the largest total expenditure for air pollution control during this period, an estimated $1 billion. These represented about 19 percent of the total expenditures by manufacturing and nonmanufacturing businesses. Electric utilities will continue to have the largest capital expenditures for air pollution control.

In its special study on "The Solid Waste Control Market," Frost & Sullivan anticipates that solid waste generation will increase about 35 percent during this decade, and solid waste collection will increase about 62 percent. The report continues:

Collection budget

Communities in which solid waste is collected budget, on the average, 53 cents per person per year for capital expenses for collection equipment, out of a total of $5.39 for the collection budget on an annual per capita basis.

About three out of every four tons of solid waste is disposed of by dumping on land mostly in open dumps. Only 10 percent is disposed of through sanitary landfill methods and only 8 percent through incineration. Sanitary landfill, which is an engineered burial of solid wastes which provides opportunities to reclaim land, and can be operated to cause no pollution, will increase substantially during the next decade. As a result, markets

REDUCING A LANDSCAPE BLOT—*Nearly 70 shredder plants are in operation throughout the U.S., the Frost & Sullivan report declares, with an estimated production of three to four million tons of scrap annually. This not only reduces an ugly scar on the landscape but can be converted into an economic resource in the form of ferrous scrap for remelting into new products by steel mills and foundries. Junked autos can be ripped into fist-size pieces of scrap in a matter of minutes.*

for equipment systems will expand. The standard equipment used in sanitary landfill consists of various kinds of earthmoving machinery.

Substantial opportunities exist for a considerable expansion in the market for incineration equipment if suitable technological progress can be made to meet the market needs. Incinerators require a large capital investment, however, operating costs are high, and they are potential contributors to air pollution unless costly air cleaning equipment is used. But they can also provide income from operations through the use of waste heat for steam or power, and the salvage and sale of metals and other materials.

Stringent standards

There are approximately 300 municipal incinerators in the U.S., of which 70 percent are without adequate air pollution devices. Many of those with air pollution devices would probably not be able to meet current and anticipated stringent air pollution standards.

For the next five years, it is estimated that it will require annual capital expenditures, on the average, of $45 million just to replace or upgrade inadequate incinerators and equipment—$30 million for incinerators, and $15 million for air pollution equipment.

There are approximately 12,000 companies engaged in the collection and disposal or collection and reclamation of solid waste. Recognizing the opportunities in solid waste management, about half a dozen corporations have started to build solid waste collection and disposal operations on a chain basis during the last three years. Most have concentrated on commercial and industrial solid waste handling, but they are now seeking to take over the collection and disposal operations for entire towns and cities.

Financial support is becoming more readily available because opportunities for profits can be seen.

The market for compactor-type refuse trucks is expected to increase from 8,000 units with a value of $160 million in 1970, to 17,500 units with a value of $350 million by 1980—an increase of 119 percent. Costs of compactor trucks range from about $20,000 to upwards of $35,000 for the new automatic loading trucks.

Sales of compaction machines are expected to increase from $6 million in 1970 to $20 million by 1980—an increase of 233 percent.

Annual expenditures for sanitary landfill machinery are expected to increase from $30 million in 1970 to $65 million in 1980, an increase of 117 percent.

Piped refuse disposal systems, which have been installed in European countries, are being installed in this country. Concentrated research is under way to explore the potential use of rail haul. Inasmuch as usable landfill sites close to large metropolitan areas are fast disappearing, long-distance transportation to remotely located landfill sites may be one solution to this problem. Use of compression or baling is being studied to determine the most economical and effective way for handling wastes in a rail haul system. For large urban areas, rail haul may provide an alternative to incineration when nearby landfill sites are no longer available.

Shredders on upswing

The use of metal shredders for removal and disposal of junked automobiles has been on the upswing. These shredders can pulverize a car in less than a minute. The statistics of junked cars indicate a large potential market for such equipment.

Solid waste management is barely beginning to receive recognition as a national problem. Perhaps even more important than this, there has been increasing public recognition of solid waste as a potential national resource.

Traveler Weather Forecasts Begin For 88 U.S. Cities

Businessmen and other travelers may soon have available to them weather forecasts of distant cities to which they propose to travel. This week the National Weather Service, a component of Commerce's National Oceanic and Atmospheric Administration (NOAA), begins issuing on its teletypewriter circuits twice daily lists of abbreviated forecasts for 88 U.S. cities.

By consulting these lists in their newspapers, or hearing them read over the air, travelers will get destination forecasts quickly and efficiently. For each city listed, there will be a brief description of recent weather, plus forecasts for the following two days.

"There is no question that weather forecasts for distant cities are a major unfilled need," Dr. George P. Cressman, Director of the National Weather Service, says. "Our offices are continually bombarded with requests for predictions at destinations hundreds of miles away. This information is in our system, but the problem has been how to get it to the person who needs it. Individual responses are out of the question for any city large enough to have a weather office. The demand is too great. Busy telephones and frustration are the result. Mass dissemination is the only answer. We believe these abbreviated forecasts — if passed along by the media—will do the job quickly and effectively and fill a large gap in the public service area."

In a statement to newspaper and wire-service editors and news directors of radio and television stations announcing the service, Dr. Cressman calls the new service "one of our more significant innovations in recent years. . . . I am confident the public will find them useful."

$140,000 Caltech Sea Grant Hopes To Help $10 Million Kelp Industry

Restoration and propagation of the giant kelp, *Macrocystis*, the harvesting of which off California's coast is a $10 million a year industry, is involved in a recent $140,000 Sea Grant to the California Institute of Technology at Pasadena.

The grant has been made by Commerce's National Oceanic and Atmospheric Administration. Together with matching funds from non-Federal sources, the money will be used to aid in development of mass-culture techniques for seaweed.

The giant kelp is harvested for a colloid extract called algin. It is widely used in food processing as an emulsifier, stabilizer, gelling agent, or thickener.

According to university scientists, locating reliable and economic sources of the product has become a real problem. Over-harvesting and pollution are two major factors in the gradual decline of this natural resource. A remarkable scientific and conservation project begun in the mid-50s in California has led to the recovery of many of the large kelp beds that were rapidly disappearing at the time.

Embryos for seeding

The Caltech Sea Grant project, led by Dr. Wheeler J. North, will now focus on demonstrating the use of kelp plant embryos for seeding certain areas in which kelp is to be initiated or expanded. Additional efforts may be needed to protect young kelp plants from grazing animals such as the sea urchin.

Another Sea Grant amounting to $464,500 has been awarded by NOAA to the University of Georgia to help support that state's university system in its work in marine research and advisory services for the state's commercial fisheries.

Major objectives of the state's Sea Grant program are to better understand the basic biological, chemical, geological, and hydrological processes in the estuarine and coastal zone of Georgia, determine the seasonal fluctuations in size, species composition, and abundance of living marine resources, and examine the possibility of commercial aquaculture. Advisory services are also an important part of the Sea Grant program.

An example of the Sea Grant-related studies being carried out by the University of Georgia is a systematic survey of Georgia's offshore waters to determine the composition, distribution, relative seasonal abundance, and size distribution of shrimp and fishes of potential commercial importance. A similar survey for estuarine waters was initiated by Georgia's Game and Fish Commission, supported, in part, by funds from the National Marine Fisheries Service. The Sea Grant survey of offshore fishery resources will be carried out in conjunction with a marine extension service program exploratory fishing program and a proposed survey of minerals in the same general area. —*NOAA*

Meteorite Magnetism Study May Hold Answers To Birth Of Solar System

Faint, meteorite-borne messages from a vanished world are being decoded by Commerce Department and university scientists, in an effort to describe forces which helped form the solar system some four billion years ago.

The messages are written in remanent magnetism — the magnetism remaining in a magnetized body after the body is removed from the influence of a magnetic field—in the nickel-iron particles of certain meteorites.

This information should help scientists explain whether magnetism played an important, cooperative part with gravitational forces in distributing planetary materials to their present orbital distances from the sun, and in the accretion of the planets themselves.

The investigators are D. E. Watson of Commerce's National Oceanic and Atmospheric Administration (NOAA), Dr. E. E. Larson of the University of Colorado's Department of Geology, and Dr. M. W. Rowe and J. M. Herndon of Texas A&M University's Chemistry Department. Watson is a research geophysicist with the Earth Sciences Laboratories, one of NOAA's Boulder, Colorado-based Environmental Research Laboratories.

The detective work involved in tracking a magnetic body back through time is still more art than science. At NOAA's Boulder laboratories, the work employs a specially designed high-temperature oven and an associated magnetic coil system. These permit specimen rocks to be heated through their Curie temperatures, in an environment which is artificially balanced to provide zero magnetic field and one in which an artificial magnetic field can be applied.

Magnetic history

The Curie point of a magnetic material is the temperature at which the material loses its remanent magnetism. If it passes through the Curie point in the presence of a magnetic field while cooling, it is remagnetized. If it passes through the Curie point without being exposed to a mag-

netic field, no magnetization is acquired. Thus, a rock specimen can be heated in a zero field to determine those points at which its remanent magnetism is lost; then reheated in steps in the presence of a known field, to determine points at which it becomes remagnetized. Comparison of these results provides a rough thermal and magnetic history of the specimen.

Because the age of the material is known from other tests—for example, radioactive isotope dating and various geochemical techniques—the magnetic history can be linked to a geologic past, illuminating ancient magnetic fields.

Primitive meteorite

In the case of meteorite experiments, the specimens are carbonaceous chondrites—carbon-rich meteorites containing the small, round magnesium-iron bodies called chondrules. Chondritic meteorites are designated by the letter "C" followed by a Roman numeral. The lower the numeral, the more primitive the meteorite.

"These specimens," Watson notes, "are literally priceless. We have samples from more than two thirds of every carbonaceous chondrite ever recovered. And we have several CI samples. Fewer than 10 of these have been located soon enough after they landed to be recovered, so that several grams is a large sample."

Earlier experiments on meteorite samples were non-destructive. The specimen was demagnetized by strong alternating magnetic fields to see whether it had stable remanent magnetism, and the relative stability provided insight into the specimen's history. When it became apparent that most meteorites had stable remanent magnetism, the possibility of more extensive tests was considered.

NOAA's unique ability to heat samples to comparatively high temperatures in a precisely controlled, non-oxidizing, non-reducing atmosphere, under controlled magnetic-field conditions seemed to offer data of sufficient promise to warrant destructive tests of the rare materials.

"We take the specimen up to about 850 Celsius," Watson reports, "in steps of about 50 degrees to demagnetize it, and let it cool from each of these steps in a field that balances out the earth's magnetic field. Then we reheat it in 50-degree steps in a known field, and measure how it acquires magnetism. We demagnetize it again and compare the way it loses the magnetism acquired in the laboratory to the way it lost the magnetism acquired naturally.

"What we measure is the amount of current generated in a coil by a spinning magnetic rock. The device is similar to an electric generator. Our instrumentation can detect magnetism down to about a ten-millionth of a gauss, and we're working on a cryogenic magnetometer that will give us measurements down to a billionth or ten-billionth of a gauss. The earth's field is about half a gauss," he adds.

Much remains to be done before solid conclusions can be drawn but the implications of this continuing investigation could be profound.

It is hoped that future research can answer some previously unexplained phenomena.

Angular momentum

"For example, why is most of the system's angular momentum in the planets," asks Watson, "rather than in the sun, and why is the density of the planets greater from Earth in toward the sun than from Mars out? Perhaps the magnetic field acted as a separator, stopping charged or magnetic particles from being drawn into the sun by setting up a kind of equilibrium between gravitational attraction and magnetic repulsion. That would mean the lighter particles stopped farther from the sun than the heavier ones, and would help explain this distribution of materials a little better.

"What role did magnetic field and magnetic attraction play in the formation of the planets themselves? Perhaps there exist nickel-iron cores because the initial accretion was between magnetized particles; then, when they had coalesced and had enough mass, their gravity began attracting other, lighter materials such as silicates. This would lend support to recent theories on non-homogeneous planetary accretion."

In an era when the study of ancient magnetic fields has helped reshape understanding of this planet's history and behavior, it is reasonable to expect that the magnetic "memories" of meteorites will improve comprehension of how and why the solar system formed.

—NOAA

Seminar To Consider Cheaper Fish Products

Production and use of new, highly nutritional and possibly inexpensive fish products will be considered at a two-day technical seminar beginning Sept. 21 at the Drake Oakbrook Hotel, Oakbrook, Ill.

Attendees will include fishery scientists, technologists, fish processors and manufacturers and marketing specialists. The seminar is sponsored by Commerce's National Oceanic and Atmospheric Administration through its National Marine Fisheries Service and by the National Fisheries Institute.

The seminar's five sessions will center on a detailed examination of new technology in the form of mechanical fish separators successfully introduced during the past several years which provide a greater yield of meat from fish by stripping extra quantities from skin and bone. The separators are able to recover large amounts of ordinarily wasted pieces of edible fish, which can be made into various

products including frozen fish blocks.

Technical papers will be presented by various scientists summarizing the current technical status of mechanical recovery systems and product characteristics.

Equipment suppliers from the U.S., Germany, Japan, and Sweden will demonstrate capabilities of their machinery and explain the economics of fish separators.

—NOAA

Fisheries Lab To Open At Panama City, Fla.

A new National Marine Fisheries Service laboratory opens at Panama City, Fla., this week, the first to be completed by Commerce's National Oceanic and Atmospheric Administration (NOAA) since it was designated the parent organization of NMFS late in 1970.

Built to accommodate a 50-member professional and support staff, the laboratory is headed by biologist Eugene L. Nakamura. Studies will focus on the biology and ecology of coastal marine fishes with emphasis on sport species and the ecology of estuaries. The area's many visiting and resident sport fishermen are expected to be the major beneficiaries of the research.

The laboratory building covers 13,400 square feet and is situated on 12 acres of land donated by the Committee of 100, Panama City Chamber of Commerce. The laboratory operates the research cruiser *Rachel Carson*, a 43-footer donated in 1967 by Mr. and Mrs. E. Del Guercio of Marathon, Fla.

Biological research at the new facility will center on identifying resident fish species, their abundance and distribution, habitat factors and possible constraints on quantities and dispersal of fish. Ecological studies will be devoted to collecting salient data on estuaries to permit evaluations of modification or change, and to determining the significance of estuaries to marine fishery resources.

Airborne Team's 'Electronic Eyes' Inventory Resources

Realization that modern industrial society is consuming natural resources at an unprecedented rate is precipitating action in industry quarters throughout the nation in addition to government-inspired research and technology.

At the Space Division of North American Rockwell in Downey, Calif., a team of specialists is concentrating on matching space age expertise and systems developed by the company on such precedent-setting programs as NASA's Apollo program to the ever-escalating requirements of the planet.

In many remote areas of the world, great reserves of natural resources lie virtually untapped, in some instances still undiscovered. Helping to dig out information on these areas, North American scientists are centering their efforts on resource management, exploration, environmental monitoring and remote sensing technology applications.

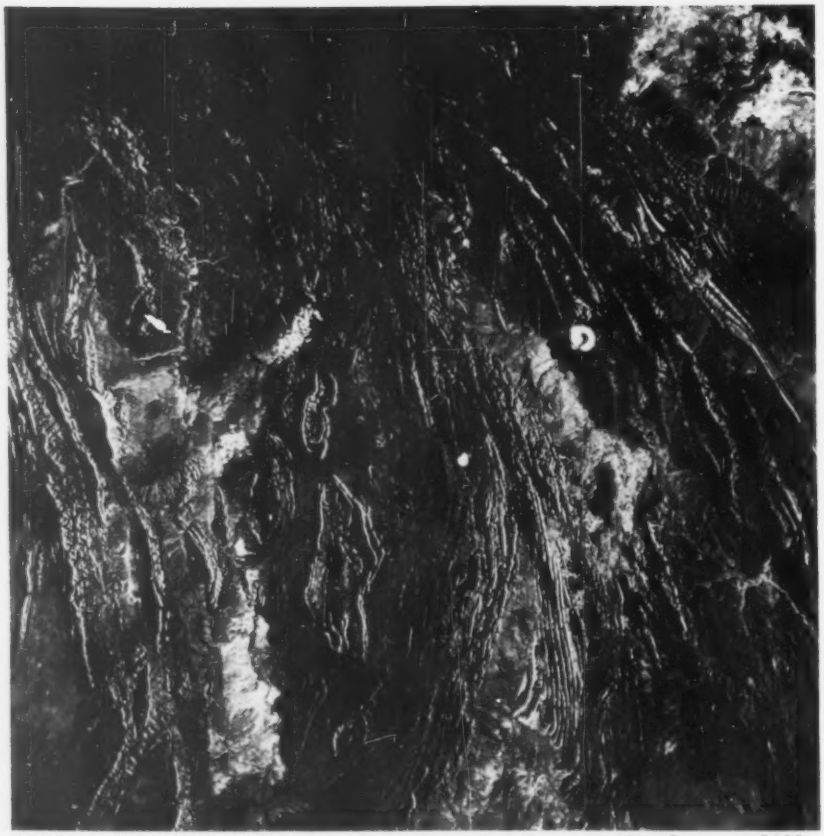
Specially-designed "flying laboratories," loaded with sensitive, high-powered equipment such as mapping cameras, microwave radiometers, infrared thermal mappers, multiband video systems, radiation thermometers and video tape and strip chart recorders are being used as "electronic eyes" to search, see and detect far beyond man's limited physical capabilities.

Pinpointing sources

Under contract to an Italian power company, a number of flights have been made over Larderello, Italy, on the western coast near Pisa, to pinpoint potential geothermal source-areas.

Aerial photography and infrared thermal mapper imagery techniques were used to locate and study various geological features, structures and heat flow anomalies. North American was also responsible for reducing the collected data and analyzing it. As a result, a

AIRBORNE GEOLOGIST—*Dave Steller of North American Rockwell's Space Division controls sophisticated instrumentation during flight over terrain under study. Such missions are discovering important new sources of minerals and geothermal sites far beyond man's limited physical capabilities.*



AERIAL SURVEILLANCE—*Nature's carvings often provide clues to hidden resources. Distinctive geological features, such as these folded mountain structures, in a remote area of West Pakistan, can be detected and mapped through aerial instruments such as cameras, microwave radiometers and videotape recorders.*

a diamond-carrying ore. Not only was kimberlite found but the team came up with the most effective and economic means the Lesothoan Government can use to complete its search for the kimberlite lode.

The company has also conducted geothermal exploration missions, including data acquisition, analysis and interpretation in California for major oil, energy and exploration corporations.

Limitless potential

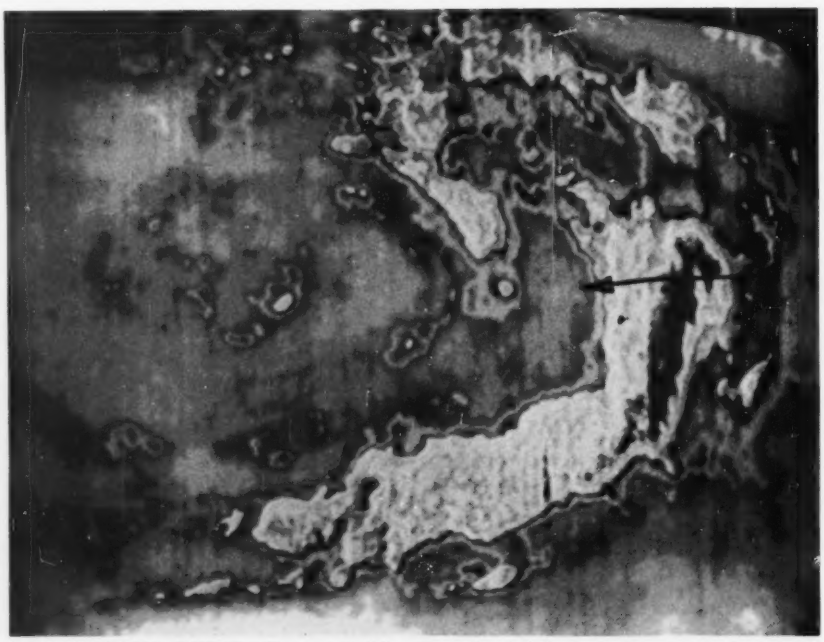
The potential for such projects is virtually limitless. In the next few years the market could well reach into hundreds of millions of dollars. Nations all over the world, particularly the developing ones, need inventories of their natural resources. This includes African countries which need to know how and when to most effectively use millions of acres of grazing lands. Also knowledge of timber and crop reserves must be updated.

In the years ahead, the space shuttle and orbiting space station will be particularly important in resource management. From oper-

number of possible new geothermal sites were uncovered.

Similar flights and studies have been made over Ethiopia and Kenya, under contract to the United Nations. Airborne infrared surveys identified and mapped the location, distribution and shape of all surface manifestations of geothermal features on both land and water bodies over areas encompassing several thousand square miles. Use of these techniques may shorten geothermal exploration cycles by years, thereby allowing power development earlier than normally anticipated.

Over a 1,000-square-mile section of Lesotho, South Africa, the North American crew conducted an airborne remote sensing, data acquisition and mineral exploration survey, principally aimed at discovering new yields of kimberlite,



"ELECTRONIC EYES"—*Super-sensitive "eyes" of infrared thermal scanner employed by the North American airborne team see what humans cannot—a possible source of geothermal energy (arrow) in a dead looking crater in Ethiopia.*

ating altitudes of 300 miles, astronauts will be able to survey huge areas of the planet in a single pass. Not only will they be able to gather the information and process it but in many cases interpret it for immediate transmission and utilization.

The shuttle can be employed to obtain specific Earth information and data such as surveying agricultural crops in a particular part of the country to determine potential yield and maturity, or in the case of natural resources, their location and extent. This type of survey can be accomplished with a single photograph that would be processed and analyzed on the shuttle's return to land, while conducting its primary space mission. The space station could monitor environmental pollution on a global scale, providing information which would lead to the improvement of life on this planet.

Compulsory Patent Licensing System Seen Hurting Inventor Incentive

Compulsory patent licensing would seriously impair the effectiveness of the patent system, Patents Commissioner Robert Gottschalk said in a recent San Francisco address.

Speaking before the Patent, Trademark and Copyright Section of the American Bar Association, he said compulsory licensing would result, "in substantial loss of the incentive to invent, to invest, and to risk the money and effort which are essential to the development and commercialization of new ideas.

"When someone has patented a new product or a new process, his competitor is under pressure to come up with another, and still better, invention." However, "with a broad system of compulsory licensing in force, that compulsion would no longer obtain. If a man patented an invention which his competitor wanted to use, the competitor wouldn't have to invent something better. He would, instead, merely apply for a license," declared the Commissioner.

As a result, competitive research and technological progress would suffer. In the end, he added, "of course, the public would suffer."

To bring about industrial progress, the Commissioner said, the incentives offered by the patent system are indispensable.

Those incentives are probably more important now than ever before, he pointed out, "to speed up our technological progress, increase our productivity, strengthen our economy, and improve our world trade position and international competitive muscle. And we need them to help us solve critical problems affecting the health, safety and welfare of our people."

Gottschalk noted that there have been some proposals of compulsory licensing in particular fields of technology.

"If we did it," he stated, "it would seem logical to me to apply it only to the fields in which the need for technological progress is least critical and not to the fields where such progress is most important."

He pointed out that proponents of compulsory licensing are taking just the opposite approach, and "would apply it where our need for incentive is greatest." He cited, as an example, Section 308 of the Clean Air Act of 1970 which provides for compulsory licensing of patents relating to air pollution control, which the Department of Commerce vigorously opposed.

—Patent Office

Cannikin's Nuclear Test Last Year May Spur Earthquake Prediction

Geomagnetic sensors near Cannikin, the multimegaton nuclear explosion detonated beneath the Aleutian Island of Amchitka last November, obtained evidence that may assist scientists in future earthquake prediction methods.

The sensors indicated that changes in underground stresses can produce small but measurable changes in the earth's magnetic field. Geopiezomagnetic phenomena—changes in magnetic properties exhibited by magnetic rocks subjected to pressure (piezo)—have long been discussed as possibly recognizable precursors to destructive earthquakes. But actual measurements of magnetic field changes associated with stress changes in crustal rocks have been rare.

The Cannikin data, reported by two Boulder, Colo., scientists of Commerce's National Oceanic and Atmospheric Administration (NOAA), are evidence that such magnetic fluctuations do occur and should help provide a key to whether geomagnetic signals can be used as earthquake predictors.

Dr. W. P. Hasbrouck of the Earth Sciences Laboratories, one of NOAA's Environmental Research Laboratories, and J. H. Allen of the National Geophysical and Solar-Terrestrial Data Center of NOAA's Environmental Data Service, obtained and interpreted the geomagnetic data from Amchitka.

Cannikin afforded the NOAA scientists an unparalleled opportunity to explore interactions between stresses in the earth and changes in the magnetic field.

The next step in this investigation will be to quantify further the relationship between stresses in rocks and geomagnetic effects—that is, to be able to say that x amount of stress applied to Amchitka rocks, produces y amount of geomagnetic fluctuation. *—NOAA*

INTERNATIONAL COMMERCE REPORT

- National Export Expansion Council meeting planned
- Results at Commerce trade shows abroad
- U.S. publications are put to work overseas
- Economic outlook in six countries
- List of foreign nations' investment offices in U.S.
- Investment, trade leads from around the world

Export Credit Insurance Unit Has New Plans

Exhibitor's policies, pre-qualification of foreign buyers, policies covering exports of services, small business policies, master policies. . . . The Foreign Credit Insurance Association (FCIA), in shaping such new programs to aid U.S. export expansion, is increasingly moving into lockstep with the Commerce Department's export promotion efforts.

FCIA is an organization of 50 of the nation's leading capital stock and mutual property insurance companies. It was created in 1961 to enable United States exporters to compete on more favorable terms with exporters in other major trading countries.

In cooperation with the Export-Import Bank of the United States (Eximbank), an independent agency of the Federal Government, FCIA insures exporters against the risk of non-payment by foreign buyers for commercial or political reasons. FCIA insurance also facilitates the financing of term credit sales, thus providing U.S. exporters with support to meet competitive terms of payment offered by other countries.

FCIA regional offices:

250 Broadway, 26th Floor, New York, N.Y., 10007, 212-349-3996; 55 Public Square, Suite 1435, Cleveland, O., 44113, 216-532-1520; 10 South Riverside Plaza, Suite 1552, Chicago, Ill., 60606, 312-641-1915; 622 North Cass St., Suite 200, Milwaukee, Wis., 53202, 414-224-0240.

611 West 6th St., Suite Los Angeles, Calif., 90017, 213-624-8434; One Embarcadero Center, Suite 2212, San Francisco, Calif., 94111, 415-421-0346; C & I Bldg., 1006 Main St., Suite 1408, Houston, Tex., 77002, 713-227-1563.

Last year a joint FCIA-Eximbank study team analyzed U.S. export patterns and compared overall U.S. export assistance programs with those of other industrial countries. It was found that credit insurers in other industrial nations insure an average of about 12 percent of their country's exports; FCIA assisted 2.5 percent of U.S. exports in 1970.

As a result, a five-year plan to expand FCIA insurance of U.S. exports was established by FCIA and Eximbank, and announced in April 1971 at the annual meeting of the Banker's Association for Foreign Trade. By 1975, if it meets its goal, FCIA will provide assistance for U.S. exports of approximately $10 billion per year.

FCIA is off to a running start. The 1971 goal of $2 billion has been reached: authorized coverage for 1971 was $2.024 billion, as compared with the 1970 level of $1.345

COMMERCE-FCIA TEAMWORK—*A recent discussion on U.S. trade expansion techniques brought together Edward J. Krause and Robert Pritchard of the Commerce Department Office of International Trade Promotion and Dallas M. Coors of the Foreign Credit Insurance Association and John C. Clark of Eximbank. From left, Clark, Krause, Coors and Pritchard.*

billion. To accomplish these goals, FCIA has expanded and simplified its coverage, reorganized its internal operations, and embarked on large-scale educational programs for exporters, bankers, and insurance agents and brokers.

New programs have been designed to encourage large companies to expand their export trade, and small manufacturers to enter the export field. The FCIA Master Policies have been refined. These policies reduce the insured's paperwork by utilizing a deductible provision, a unique feature of the U.S. export credit insurance program. A Small Business Policy has been introduced for newcomers in export trade and for exporters having modest sales volume.

The new Master Policy and the Small Business Policy supplement the traditional insurance FCIA offers U.S. exporters. This coverage includes short term policies for shipments with terms up to 180 days, medium term policies for single transactions with terms to five years, and combination short term-medium term policies designed to support sales of U.S. equipment to dealers abroad.

FCIA has also announced a new policy to cover export sales of services. During 1971 services enjoyed a balance of payments surplus of $3.6 billion while merchandise trade recorded a $2.9 billion deficit. The surplus balance in the services account reflects the U.S. competitive edge in such service areas as income on U.S. investments abroad, fees and royalties and other private services.

The designation "other private services" includes consulting services and is the area for which FCIA insurance is now offered. U.S. industries benefiting from this insurance include management consultants, engineering service firms, transportation companies, and other firms offering the services of U.S.-based personnel to foreign customers with payment being made in U.S. dollars in the U.S.

Utilizing the insurance programs described above, FCIA is actively supporting Commerce Department activities.

FCIA will thus work closely with exhibitors at Commerce-sponsored overseas trade promotion events to assure that the exhibitor will be in a position to effect off-the-floor sales. A special "Exhibitor's Policy" will be offered to enhance the capacity of the exhibitor to negotiate a sale of his product at the event and offer competitive terms to the buyer. Existing policy holders and holders of the "Exhibitor's Policy" will receive commercial and political risk protection for up to 95 percent of the CIF value of any sale made at the trade show or within 15 days of the close of the show.

In similar fashion, FCIA will ac-

AT INTERNATIONAL SESSIONS—*Reginald J. Denton, President of the Foreign Credit Insurance Association (left), and Denis B. Casey, FCIA Vice President, were participants in a meeting in Monte Carlo this year of the Berne Union of major export credit insurers.*

tively cooperate with Commerce trade missions. It will brief departing missions regarding FCIA services, and branch officers will call on mission participants to assure that each mission member has the necessary assistance to facilitate possible sales while abroad. FCIA will endeavor to pre-qualify buyers in those countries to be visited by the mission to expedite and facilitate sales terms offered by mission members.

'Target Industry' teamwork

In another major cooperative effort with Commerce, FCIA plans to pre-qualify overseas buyers in the "Target Industry — Target Market" program of Commerce's Office of International Trade Promotion (see *Commerce Today*, July 10, Page 35). In this connection, FCIA has been designated by the Commerce unit as an Export Sales Promotion Multiplier. In turn, Reginald J. Denton, the FCIA President, has emphasized that the OITP program is an important means of expanding U.S. exports in product areas in which the U.S. has a technical or competitive advantage, and has alerted FCIA's regional staffs to work with manufacturers of "Target Industry" products.

Complete program

The program involves intensive overseas market research, coordinated sales campaigns over two to five year terms, counseling services and use of the Commerce Department export promotional facilities around the world.

Seven categories of products have been selected so far: electronic data processing, and its peripheral devices and software; food processing and packaging machinery and equipment; pumps, valves and compressors; industrial and scientific instruments; air conditioning and refrigeration equipment; agricultural machinery and equipment, as needed in developing nations, and micrographics.

SOVIET PROFESSIONAL GROUP IN U.S.—*Among the trade and professional delegations from the Soviet Union in the United States this summer were a team of pharmacologists who presented papers at a scientific meeting in Ormond Beach, Fla. They were accompanied by Mrs. Irina D. Savchenko of Licensintorg, the Soviet licensing organization, and hosted by Dr. Vladimir Dvorkovitz, whose Florida-based technology licensing firm is a Licensintorg agent in the U.S. Standing behind Mrs. Savchenko, from left, are Professors Michail B. Machkovsky and Gregory N. Pershin; Dr. Dvorkovitz; and Professors Sergei V. Anichkov and Vasily V. Zakusov.*

NEEC Schedules Plenary Session Sept. 21-22

East-West trade prospects, the role of the multinational corporation and the business community's response to the new Domestic International Sales Corporation tax program are major discussion points for the Sept. 21-22 plenary meeting of the National Export Expansion Council (NEEC).

The council's chairman, Carl A. Gerstacker, of the Dow Chemical Co., will preside at sessions at the Mayflower Hotel in Washington. Secretary of Commerce Peter G. Peterson and Andrew E. Gibson, Assistant Secretary of Commerce for Domestic and International Business, are among the Federal Government speakers on the agenda.

NEEC committees that will make reports are headed by Melvin Holm, Carrier Corp., taxation committee; George H. Geick, UNIVAC Division of Sperry Rand, computers; Harvey J. Taufen, Hercules, Inc., chemicals; Dause L. Bibby, Stromberg-Carlson Corp., telecommunications, and Davis W. Beier, Jr., Pure-Pak Division of Ex-Cello-O Corp., food processing and packaging machinery and equipment.

The committees have been studying the competitive positions of their respective industries in world markets.

Portland To Have Meeting On U.S.-Soviet Prospects

A conference on opportunities in U.S.-USSR trade open to businessmen throughout the United States has been scheduled for Oct. 3-4 in Portland, Ore.

Representatives of the Soviet Embassy in Washington and the Soviet Consulate General in San Francisco, and the head of the Soviet AMTORG trading corporation, Vaseliy Studenyken, will be among the speakers, according to an announcement by Oregon's Governor Tom McCall, who will also speak.

Deputy Assistant Secretary of Commerce Edward L. Allen, who took part in the recent U.S.-USSR trade discussions in Moscow, is to address a luncheon session. Professor John Letiche of the University of California, who has served as a Presidential adviser on Soviet affairs, is another speaker.

For more information write Bob Gibbs, Vice President, International Banking Division, U.S. Bank, Portland, Ore., 97208.

Trade Fairs, Centers

U.S. Exhibitors Sought For Three Overseas Shows

Hotel & Restaurant Equipment, United Kingdom, Jan. 22-26. The commercial opportunities that the British hotel & restaurant industries afford U.S. manufacturers cut across many product lines including equipment, systems, and products for food preparation and service, administration, and cleaning, maintenance, and sanitation. Apparent consumption of hotel and restaurant supplies in Britain was well in excess of $55 million in 1971. Imports presently account for 34 percent of this, but are expected to increase to 50 percent by 1975 with the United States enjoying 40 percent of the share. Turnover in the U.K. catering trade expanded by 8 percent in 1970 and by an additional 10 percent in 1971. Due to its proximity to the United Kingdom and the tourist orientation of its economy, Ireland is considered a good supplementary market for the U.S. exhibitor in this commercial event. Call Jeff Gwaltney at 202-967-3848 for details, or write him at BIC-946, U.S. Department of Commerce, Washington, D.C. 20230.

Plastics Production Machinery and Instrumentation, Mexico, March 5-9. The plastics industry in Mexico is growing at an accelerated rate, and demand for plastics production equipment is expected to be up by 18 percent annually, reaching the $30 million level in 1973. As about 90 percent of current requirements are supplied by imports, most of them from the United States, this will be an excellent market for American manufacturers of a wide range of advanced machinery and instruments. The U.S. Trade Center in Mexico City has scheduled an exhibit to help U.S. manufacturers tap this market. Call James L. Blow on 202-967-4311 or contact your nearest Commerce Field Office for more information.

Construction and Logging Equipment, Singapore, April 9-14. Southeast Asian markets for construction equipment, building products, logging, forestry, and materials handling equipment, continue to expand. In 1970 a total of $47 million worth of construction equipment and building products were imported. The recent opening of Indonesia's forests to development has opened a completely new market for logging and handling equipment. Since reforestation programs must, by law, be an integral part of all logging activity, a concomitant market exists for reforestation equipment and supplies. The market for road building, log hauling, and transporting equipment is expanding rapidly along with the development of forest resources. The rugged terrain involved puts a premium on quality and durability, which are often an overriding consideration in making final purchase decisions. For further information on this exhibit of U.S. equipment, contact Mrs. LoRee P. Silloway, U.S. Department of Commerce, Washington, D.C. 20230, BIC-958, or call her at 202-967-4858.

Pakistan Solicits Papers For Engineering Seminar

U.S. authors of technical papers and interested businessmen are invited to contribute to and attend an **International Symposium on Electrical Engineering, Lahore, Pakistan,** Nov. 15-17.

Review and original papers are solicited in the following areas: antenna and propagation, circuit theory, communication technology, computers, control systems, electrical machines, high voltage engineering, laser and plasmas, microwave theory and techniques, power systems engineering, satellite communication and solid-state devices.

Authors should send three copies of a typed summary to: Dr. Alauddin Javed, Secretary, Technical Program Committee, Electrical Engineering Dept., West Pakistan University of Engineering & Technology, Lahore.

U.S. Firms Can Exhibit At Three European Shows

U.S. firms are welcome to participate in three upcoming international trade events in Europe.

Habitare 73, Helsinki, May 4-13. This exhibition of home and leisure products attracted more than 105,000 visitors three years ago.

Write: Finnish Fair Corp., SF-00250, Helsinki 25.

Eleventh International Toy Exposition, Milan, Jan. 26-Feb. 2. The U.S. Consul in Milan feels that there is a growing market for all sorts of toys in Italy, and that participation would be worthwhile.

Write: 11th. International Toy Exposition, Segretaria, E.A., Salone Internationale del Giocattolo, Via Petitti 16, 20149 Milan.

Second International Marketing Conference, Athens, Nov. 24-25. Sponsored by the Greek Management Assn., which is trying to recruit foreign experts in international trade as lecturers.

Write: Greek Management Assn., 6 Philhellinon St., Athens 118.

Stockholm Show Rescheduled

The Metal Parts Production Equipment Show at the U.S. Trade Center in Stockholm, originally scheduled for Nov. 6-11, has been rescheduled for the week of March 5-10. (See *Commerce Today,* July 10, p. 42, and call C. E. Walls on 202-967-4256 for details).

EFFECTIVE PRESENTATION—*AMF Inc.'s Netherlands representative, second from left, seems to be making his point regarding the AMF Seam Presser to Paris Trade Center visitors at recent apparelmaking equipment show.*

Three Trade Center Shows Score

U.S. exhibitors reported substantial sales at three recent overseas shows sponsored by the U.S. Department of Commerce.

Apparelmaking, Paris

"We made very good contacts with the right people, who were invited by the Trade Center . . ."

"Our product is of interest to only a very narrow specific market, but the Trade Center found the right people and, beyond my wildest dreams, they came . . ."

"This show was 100 percent satisfying. We had more than one applicant from each of the six countries in which we were seeking an agent."

These were representative remarks by exhibitors at the June showing of U.S. apparel manufacturing equipment at the U.S. Trade Center in Paris. Seven of the 23 exhibitors were looking for representatives in France or elsewhere in Europe, and negotiations were begun with 22 candidates during the show.

A total of 606 visitors registered at the show. Resultant sales during the next year are expected to total almost $4 million.

Medical electronics, Japan

A recent showing of advanced U.S. medical electronic equipment at the Tokyo Trade Center is expected to produce more than $2.3 million in export sales for the 36 firms represented.

Six exhibitors were seeking representation in the Japanese market, and one agency agreement was signed during the exhibit. Negotiations were opened with another 15.

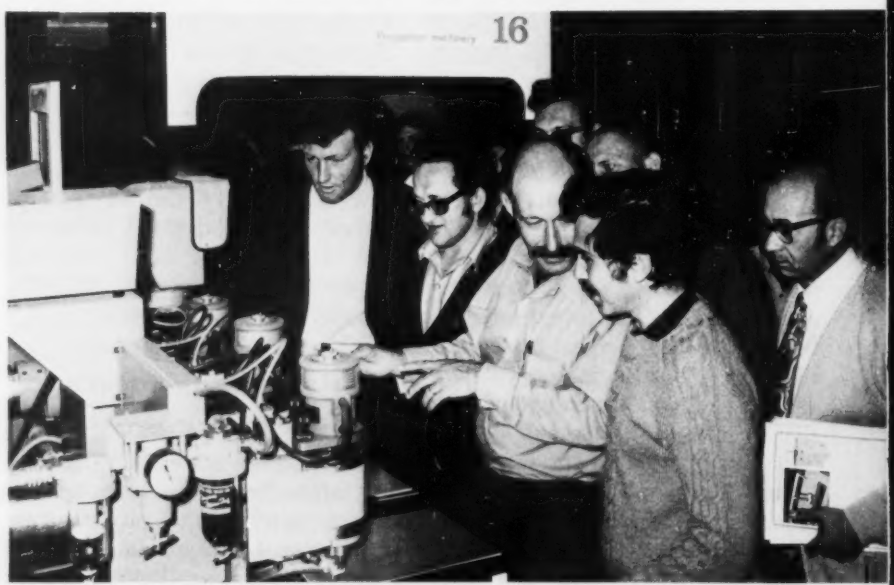
D. C. Freeman, Jr., manager of new business for Union Carbide, said the show was "extremely valuable as a basis from which to explore the market, Japanese business methods, and potential marketing outlets."

Electronics production, Israel

Almost $12 million in export sales of U.S. equipment are expected to result from a recent solo Tel Aviv exhibit of U.S. production machinery for electronics and measuring instruments.

The 69 U.S. firms which participated reported strong off-the-floor sales of almost $1.5 million, and anticipate another $10.5 million in export orders during the year following the show.

Six exhibitors were new to the Israeli market, and were seeking representation by an agent or distributor. Four appointed representatives and the other two were negotiating as the show closed.



LOOKING IT OVER—*The Superior Electric Co.'s Israeli representative demonstrates the firm's digitizing-drilling machine to prospective buyers at the U.S. electronics production equipment exhibit at Tel Aviv.*

SPREADING THE WORD—*Recently the publisher of the eleven-volume Thomas Register of American Manufacturers and Catalog File sent 360 sets of the latest edition overseas. One recipient was the Tel Aviv-Yafo Chamber of Commerce in Israel, whose president, Avner Ben-Yakar, is second from right above. Noting that the chamber had been getting along with a 1961 Thomas Register, Ben-Yakar welcomed the new version. Others pictured, from left, include: Felix B. Wahle and A. D. Cukierman of the Chamber and Commercial Attache John P. Wentworth from the U.S. Embassy. In photo at right, J. H. Savery (center) of the U.S. Consulate General in Hong Kong presents the Register to Hong Kong supply officials.*

Publications: On The Job Abroad

"Wherever they have been sent, they have done their job: to tell about U.S. products and firms to a large appropriate audience; to tell of new technology; to forecast trends; to report new product developments and services, and, in the final analysis, to bring buyer and seller together."

The comment was by Richard Smith, an official of Commerce's Office of International Trade Promotion. He could have been referring to some of the many trade specialists he deploys from Washington around the world to man Commerce Department overseas exhibitions, seminars and missions—but he was not. Rather, he was speaking of the thousands of U.S. trade publications his office collects and sends to the places where foreign buyers gather.

Thus, U.S. Commercial Officers on many continents were recently able to present 360 sets of the 11-volume Thomas Register of American Manufacturers and Thomas Register Catalog File to foreign buying commissions, trade associations, and Chambers of Commerce. These sets were a contribution by the Thomas Publishing Co., in response to requests from the Commercial Officers transmitted through the Commerce Department.

Thomas Publishing and its colleagues in the U.S. business press field have regularly contributed their reference volumes, periodicals, and catalogs to the Commercial Libraries in U.S. Embassies and Consulates overseas, to displays at Commerce-managed commercial exhibitions and symposiums, and to reference rooms set up in conjunction with trade missions.

When the director of the Hong Kong Government Supplies Department, a $27-35 million annual customer for U.S. products, accepted two volumes of the Thomas Register, he described their role aptly: "They are an excellent reference for supply sources and will be put to good use by the Department."

AT EXHIBITIONS—*A display of catalogs and other U.S. publications which brought 122 business leads at the U.S. exhibition at the 1972 Poznan, Poland, International Fair is shown below; photo above is a scene at the U.S. Commercial Library in London.*

LIVELY DISCUSSION—*William Graham (left), Direct Image Corporation of Elmhurst, Illinois, explains the finer points of his firm's products to some highly interested prospects at the DRUPA fair in Dusseldorf.*

U.S. Firms Expect $22 Million Sales From DRUPA '72

U.S. Commerce Department participation in Dusseldorf's DRUPA 72, one of the world's largest fairs devoted exclusively to the printing and paper industry, resulted in expected sales of more than $22 million for the 40 U.S. exhibitors.

More than $2.5 million in off-the-floor sales were recorded (including $16,000 to *American* firms!), with another $19.6 million in sales anticipated in the coming year as a result of participation.

Thirty of the exhibitors were seeking representation in Germany or in neighboring markets, and a total of 66 agency agreements were signed during the two-week-long international trade fair. Negotiations with another 243 potential representatives were progressing as the show closed.

Product groups featured at DRUPA 72, which is held every five years, included: printing machinery, composing equipment, paper converting machinery, die cutting equipment, counting and stamping items, binding and bundling equipment, graphic arts equipment, and paper film, chemicals and inks.

Exhibitors Heap Praise On Milan Security Show

The recent showing of U.S. industrial and commercial security equipment in the Milan U.S. Trade Center was seen as an unqualified success.

"Of all the trade shows Brooks has attended in the States, we have never received such cooperation," said John K. Roessner, president of E. J. Brooks Co.

"The best-prepared technical security show we have ever attended. The Italian businessman's enthusiasm was gratifying," commented A. Jameson, general manager of Holmes Protection Inc.

"The show was evidently well known, because we met visitors from every part of Italy," said R. Melloni of Kodak Italy.

Fifteen of the 31 exhibitors were new to the Italian market, and fourteen agents were signed during the show (four in Italy, ten elsewhere in Europe). Twelve exhibitors were negotiating with 43 candidates for 35 additional appointments as the show closed. More than $250,000 in sales were booked during the show and another $5.2 million are expected in the year following the exhibit.

SETTING THE MOOD—*Visitors at the recent industrial commercial security exhibit at the Milan U.S. Trade Center were given a realistic introduction to the show's theme at this well-guarded entrance. More than $5 million in sales are expected.*

World Trade Actions

Public, Private Spending Estimates Raised In Canada

Canada: A midyear Government survey of private and public capital spending intentions indicates that such outlays for 1972 will reach C$21,150 million, or 2 percent more than the C$20,760 million anticipated at the beginning of the year. If fully implemented, such plans would result in a 7 percent increase over 1971 levels.

The revised estimates were concentrated predominantly in the business sector, with the new outlays of C$12,557 million being 7 percent above the 1971 level. Notable increases were reported in the manufacturing and utilities industries and in trade, finance and commercial services. Updating of expected expenditures on new construction and machinery and equipment was significant among producers of foods and beverages, chemicals, rubber and non-metallic mineral products. Estimates for oil refineries were revised downward at mid-year by C$22 million.

The planned acquisition of new machinery and equipment is expected to reach C$7,384 million for 1972, for a gain of 11 percent over 1971, compared with the previously expected 6 percent.

The mid-year estimate for new construction (C$13,767 million) is a 4 percent gain over the earlier forecast and a 5 percent gain over 1971 spending. Outlays for housing are estimated at 9 percent over 1971 and marginally higher than the earlier 1972 forecast. For nonresidential construction the prediction is for a 3 percent increase over last year and 1 percent more than previously expected.

Planned capital outlays in agriculture, forestry and mining showed little change from the level of spending expected early in 1972. A downward revision occurred in the mining group mainly because of delays on some projects. In contrast, planned capital outlays reported at mid-year for the trade, finance and commercial services groups showed an extra $81 million. Utilities were also up by $163 million, largely because of increases for electric power and pipelines.

Viet-Nam: Viet-Nam increased import duties July 28 on five consumer products, among them motor vehicles, and also levied a new tax on liquor. The duty on utility vehicles (including 12-passenger buses) has been increased from zero to 100 percent while buses with 30 or more seats and trucks above two tons remain duty-free. Passenger cars, motorbikes, and other vehicles continue to be dutiable at the rate of 200 percent. Knocked-down vehicle parts for assembly will be dutiable at the same rate as the complete vehicle. Spare parts for zero rate vehicles will be duty-free while parts for all other vehicles will be 50 percent. Other products subject to the increased rates were butter and cheese, from 25 percent to 100 percent; wigs, 50 percent to 100 percent; and cosmetics, 25 percent to 50 percent.

Although the import duty on liquor remains unchanged, a special excise tax will be levied on the importation of liquor, based on the volume.

Thailand: The Ministry of Economic Affairs recently issued new labeling requirements, effective Oct. 19, that apply to all packages of merchandise sold locally, imported or exported. Packers of 33 types of products, consisting primarily of essential goods such as foodstuffs, fuel, detergents, and related major consumer products, must label their packaging to show contents. A statement of content must be affixed to the container, wrapper, or fastener, or to the goods themselves, in a clearly visible spot, indicating all net contents excluding the container, wrapper, fastener, or that which is not part of the packaged good. Weights and measures must be shown in metric units, or just units, depending on the type of goods, and be written in Thai or arabic numerals and the Thai language.

Imported goods not showing required weights and measurements on arrival in Thai Customs must be corrected before they will be released. Corrections may be made by affixing additional labels or by rubber stamping. Failure to observe the new regulations may lead to destruction of the goods and to a fine not to exceed $100 for the dealer, or to a six-month imprisonment or a fine not to exceed $500 for packers of the goods.

Additional information on these requirements is available from the Far East Division, BIC-892, U.S. Department of Commerce, Washington, D.C. 20230.

Canada: A recent Montreal court action focused attention on the Quebec law which requires that all foods offered for sale in Quebec must be labeled in French, and that markings in any other language must not take precedence over those in French. This requirement does not apply to documents accompanying sales, such as sales slips or guarantee certificates, which may be prepared only in the language of the actual buyer.

Although in effect since 1967, this regulation has not generally been enforced. Recently, however, a Montreal court fined a leading Canadian supermarket chain $2,800 for selling improperly labeled food items. It is likely that the publicity received by this case will result in more prosecutions.

Worldwide Business Outlook

Danish Economy Is Gaining Strength After Two Years Of Slow Growth

After two years of relatively slow growth, the Danish economy is moving toward stronger expansion, probably at the rate of 4 percent in 1972.

Residential construction leads the expansion, while business investment is slow and is expected to remain so until an Oct. 2 referendum decides whether Denmark will enter the EEC. Both industrial and farm production are rising, spurred by exports.

Consumer demand has begun to pick up, with continuing increases indicated. However, price inflation will absorb the better part of the 11 percent income rise anticipated in 1972. Despite reduced labor demands, hourly industrial wages rose 16 percent last year. Wage costs and higher food prices are the major factors in the 7 percent annual price rise.

Restrictive fiscal and monetary measures continue in force, but have been partly neutralized by several developments. Tax collection lags and rising public expenditures reduced anticipated budget surpluses. Money supply is more ample than expected, reflecting low demand for investment capital (except for housing) and improved external balances. Exchange reserves are up substantially, primarily because of heavy foreign borrowing.

EEC entry is likely

The Social Democrats, after their return to government last October, mounted a campaign to obtain public support for membership in the EEC. This should improve prospects for a positive vote; recent polls indicate a growing majority in favor of entry. From an economic viewpoint, it is generally recognized that close Danish affiliation with an enlarged Common Market, including the United Kingdom, will be beneficial, if not essential.

With relatively slack activity in 1971, imports were at a low level and declined in the last quarter of the year after introduction of the 10 percent import surcharge. This trend has continued in 1972. The import reduction hit literally all commodity groups, though raw material imports (other than farm produce) show signs of turning upward again. The Danish market for investment goods remains very weak, and automobile imports are down. There are declining imports also of garments and other consumer goods.

American exporters, who performed well through the 1970-71 slowdown, have lost momentum through much of 1972 but can expect recovery toward year's end, particularly in investment goods. The gradual reduction of the 10 percent import surcharge, which began with a cut to 7 percent on July 1, may release some additional imports.

The overall slackening of the Danish economy in 1971 affected U.S. sales of raw materials and semi-manufactures accordingly, and the market must be considered fairly dull for the time being and until activity picks up. This applies to reduced American sales of bulk chemicals and pharmaceuticals, while the sharp decline in U.S.-origin ammonia must be viewed in the light of increasing supplies by U.S. companies from sources outside the United States.

Reduced American exports of raw plastics are accredited both to falling U.S. supplies and to rising Danish production, but the situation seems somewhat better in 1972. Some weakness in the market for selected wood products should be mitigated by rising activity in the building sector. U.S. exporters have increased their share of the man-made fibers market, though the overall market is still rather weak, and have gained also in the small market for non-ferrous metals.

The very temperate investment climate of 1971 has continued in 1972, though gradual improvement may occur as Denmark's relationship with the EEC becomes settled. U.S. exports of industrial machinery and equipment will be affected accordingly. Viewed against

ONE OF DENMARK'S INDUSTRIAL GIANTS—*Danfoss specializes in components; valves, compressors and automatic controls. Above, its works on the Island of Als.*

the background of the good performance of U.S. exports in a slackening market in 1971, the trade figures for 1972 do not look promising. However, when adjustment is made for individual items of a fluctuating nature, such as the large sales of jet engines last year, there is some comfort.

Reduced exports of U.S.-manufactured accounting and printing machines may be due to a temporary saturation of the market. Marine motors, textile manufacturing machines, and construction equipment have shown moderate improvement. Favorable conditions continue for data processing equipment and related items. Although sales are still small, the spectacular increase in exports of U.S. knitting machines is worth noting.

Market may recover

While Danish imports of electrical equipment are currently lower than last year, the market may recover shortly. The downward trend already evident in 1971 was due, reportedly, to temporary stagnation in the Danish electronics industry caused by domestic and export marketing problems. These should gradually be resolved. Some electronic products, such as telecommunications equipment, navigational aids, and electronic tubes register stable markets without significant fluctuations. On the other hand, currently weaker trends in the instruments market, which have hit a wide range of U.S. products in the surgical, medical, and veterinary fields, are probably related to budgetary austerity imposed upon public services, hence may not be reversed for some time.

The booming Danish charter tourism activities are reflected in increased American exports of both new and used aircraft to Denmark. The flight of the Danes to areas more sunny than their own apparently defies price increases, higher taxes, and other economic uncertainties, and provides a certain market for aircraft sales.

Thai Economy Rises At Steady Pace As Conflicting Trends Balance Out

Thailand's economy appears to be performing in 1972 at about the same pace as last year. Many economic indicators show significant improvement, according to the U.S. Embassy in Bangkok, but negative factors may keep the growth rate at around 6 percent.

Booming agricultural exports accompanied by a more modest than usual increase in imports have produced a remarkable reduction of a persistent trade deficit. The balance of payments as a whole is greatly improved; medium and long-term private capital inflows have also increased substantially, as have earnings from tourism. Several production indicators are up, including cement, gunnybags and petroleum products, and foreign demand should remain strong for main agricultural commodities.

Negative factors in the economy include severe drought in some areas that has damaged the corn crop and caused a month or two delay in rice planting, and the delayed contractionary effect of the FY 1971 and FY 1972 government budgets.

Confidence is returning

In the meantime, investor confidence appears to be returning, both among domestic and foreign businessmen. The downward trend of new firms registered and capital paid in 1971 was reversed in the first two months of this year by 5 percent and 4.3 percent, respectively, as compared with the same period of 1971. Net direct foreign investment was up 92 percent in the first quarter of 1972 over the first quarter 1969-1971 average.

Data from the Board of Investment for the first half of the year are also encouraging, with applications received doubled and applications approved tripled. The interest rate structure was lowered in April, which should facilitate formulation of increasing numbers of new ventures.

The rapid increase in the export of agricultural commodities is based on the 1971-1972 crop. With a late start in planting this season, total rice production for the year will increase only slightly, while corn production will decrease because of the drought. These two factors will tend to slow down exports late this year or in early 1973.

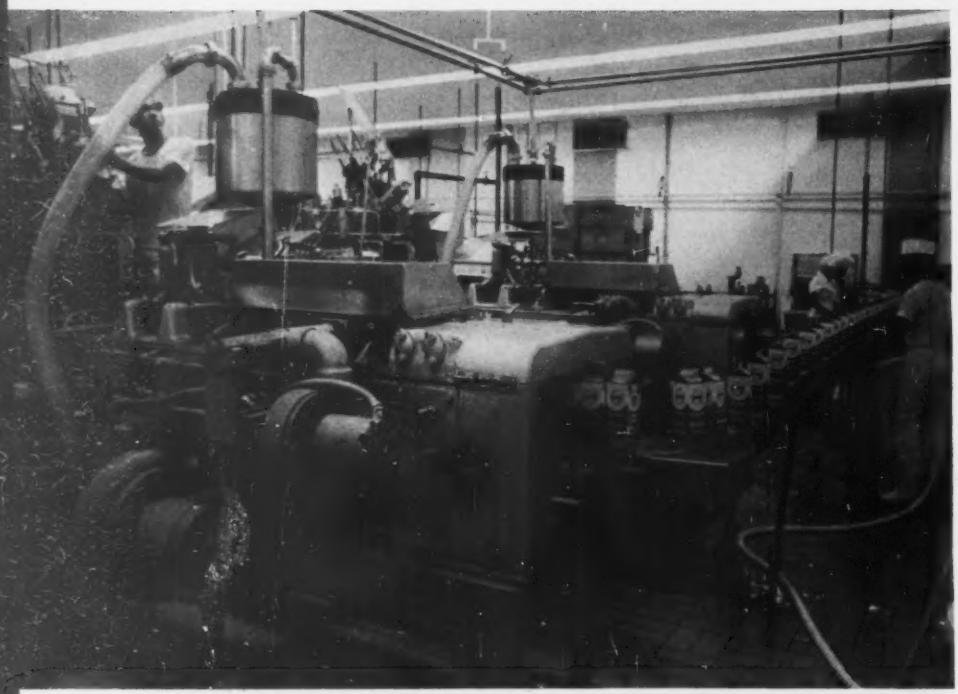
On the other hand, production of three other commodities, which are becoming ever more important in Thailand, should increase considerably. Sugar production should be up 22 percent, tapioca 21 percent and kenaf 8 percent. Aggressive efforts by the Thai Government to sell agricultural products, especially rice, should continue, and firm demand for Thai kenaf and sugar is expected to last through the end of the year.

Investment, both foreign and domestic, appears to be ahead of 1971 and there is no reason at this point to expect the trend to change.

The impressive improvement of the trade picture and in the balance of payments as a whole from mid-1971 to mid-1972 has caused a revision of balance of payments projections for 1972 and 1973. Instead of an anticipated loss of foreign exchange reserves in both years a net gain of about $100 million per year is now expected.

Higher public spending

The decision to increase the budget for FY 1973, which begins Oct. 1, by almost 8 percent to 31.3 billion baht suggests confidence that the economy is improving. During the previous two years, by contrast, the budget was increased only 5 percent (1971) and 1.3 percent (1972), respectively, partly to reduce import demand and to save



U.S. INVESTMENT IN THAILAND—*This Foremost Dairies plant evidences the interest of U.S. investors in Thailand's growing economy. Above, an assembly line.*

foreign exchange. The full impact of the lower level of government spending, especially in the development field, over the last two fiscal years, is now beginning to be felt. The stimulus of the larger budget increase planned for FY 1973 will not register before mid-1973.

Importers are optimistic

International currency adjustments have made many U.S. imports more attractive in price as the value of the baht remained tied to the dollar. U.S. products and services have gradually become more competitive as a result. Many importers and agents of U.S. products and services report their sales for the first six months of calendar 1972 are ahead of the same period of 1971 (supporting import statistics are not yet available).

Capital goods continue to have a good market potential in Thailand, with the United States long established as the leader in the more sophisticated, high technology and quality equipment fields. These range from medical and scientific laboratory equipment and instrumentation, automotive repair equipment and construction equipment up to and including a nuclear power plant.

The consumer goods market for U.S. imports has continued to lose ground to third country competitors over the last several years; however, there are new-to-market consumer products being produced in the United States that would have a market in Thailand if they were introduced and properly promoted.

Biggest single buyer

The biggest single buyer of imports in Thailand is the Government. In this connection there are several new major government work projects either under way or under consideration that have a potential for generating sales for U.S. goods and services in the months and years ahead.

These major projects include the Bangkok ring road, nuclear power plant, the second international airport, new water systems and dams, a new oil refinery, a sewage water treatment plant, low cost housing, and a new bridge crossing the Chao Phya River, among others. Under active discussion are both an oil pipeline and a canal across the isthmus from the Indian Ocean to the Gulf of Siam.

Under Thailand's Third Five-Year Development Plan, emphasis is being given to development of agriculture and industry. These two priority areas also can mean increased imports of U.S. goods and services, if they are aggressively pursued.

U.S. has advantage

Increased intensification and diversification of agriculture, for example, will require greater use of agricultural machinery, chemicals and improved seeds and breeds. Increasing the exports of these products will require processing and handling equipment. U.S. suppliers should have an advantage in supplying many of these products.

As projects under the Plan begin to gain momentum, interested suppliers should follow closely pertinent announcements by government agencies and reports of appraisal missions. The Plan anticipates financial assistance and loans of well over $1 billion from international organizations such as the World Bank and the Asian Development Bank, as well as from governments. Several project appraisal missions from the World Bank are now or have recently been in Thailand to look at urban development in the Northeast, improved irrigation utilization, the expansion of water treatment and distribution facilities, etc.

As an example of important bilateral assistance, an agreement has been signed with Japan for a $208 million yen credit. If the Japanese Government unties some or all of this credit, as it is being urged by the Thai Government to do, suppliers of any nationality would have a chance to obtain a part of the business generated by approved projects financed from the loan.

Haiti Continues Marked Recovery From 1960s Slump

The Haitian economy, although still in a decidedly underdeveloped state, continues its marked recovery from the prolonged slump of the 1960s.

Real gross domestic product, for example, rose in 1971 by 5.7 percent; agricultural production generally was up; government revenues and spending increased by 17 and 19 percent, respectively; National Bank reserves were up substantially and now stand at more than $15 million; and tourist arrivals jumped by a considerable margin. Both exports and imports increased—the former by 19 percent and the latter by 7 percent.

As a consequence of this increased economic activity, reports the U.S. Embassy in Port-au-Prince, one major U.S. bank opened a branch in Haiti's capital in 1971 and two other foreign banks, one U.S. and the other Canadian, have firm plans to begin branch operations by the end of 1972.

Actively growing

The most actively growing sectors of the monetized economy remain light assembly industries and tourism. Some 150 enterprises, most of them small assembly plants involving U.S. investment, reportedly began operations in 1971 and the first half of 1972. Exports of light manufactured products to the United States rose in value from $12.2 million in 1970 to $16.6 million in 1971.

Tourism continues to rebound as a source of income, although still far behind other countries of the Caribbean in absolute terms. Tourist arrivals reached 87,400 in 1971, 40 percent greater than the previous year. Partial data indicate that this rate of growth will be equaled during the current year despite mounting pressures on available hotel space.

Agricultural production has shown a generally upward trend during the past two years—a trend that probably will continue through 1972, with one major exception—coffee.

The extraction of bauxite remains the most important endeavor in the mining sector; exports valued at $6.5 million were registered in 1971. A 35-year petroleum exploration concession calling for investment of $1.5 million in the first 30 months of the contract was granted to a U.S. company early in 1972. Drilling operations are yet to begin, however. The production of copper ore for smelting in Japan ceased entirely at the end of 1971.

Relatively conservative management of public sector finances has insured the continued recovery of foreign exchange reserves — to their highest point in many years—and the service of Haiti's foreign debt on a fully current basis, along with an only moderate rise in consumer prices. Another bright spot in the fiscal picture has been a rise in government receipts.

The future course of the Haitian economy has been charted in outline by the government's Five-Year Plan released this year, the first such medium-term planning effort ever in Haiti. The Plan, which covers FYs 1972-1976, places highest priority on improvement of basic physical infrastructure — power, transportation and irrigation—as "support for the development of the private sector," and on increased agricultural productivity. The Plan calls for an annual GDP growth rate of 7.7 percent over the five-year period, to be brought about by a total of $145.9 million in public sector investment and $143.4 million in investment from private sources. The largest portion of public funds, slightly more than one half of which are expected in the form of foreign assistance, is to be invested in the priority areas cited.

Advances of the magnitude anticipated in the Plan are possible, given the economy's performance in the past two or three years, but only if major foreign loan assistance is forthcoming and foreign private investment in significant sums can be attracted. (It should be noted, nonetheless, that achievement of planned growth and income goals still will leave Haiti five years hence with per capita income levels among the lowest in the world.)

There are grounds for optimism that loan funds will be made available for badly-needed improvement of Haiti's transport infrastructure, at least. The international lending agencies, after a long period during which their funding programs in the country were at a very low level, are understood to be seriously interested in major road-building projects and in major expansion of the harbor and dock facilities at Port-au-Prince.

Bilateral loan assistance is in view for road maintenance purposes; loan funds for housing construction also may be in the offing. Capital investment in the agricultural sector remains an outstanding need, however.

Investment is welcome

The climate for foreign private investment is favorable; the official position of the Government is that such investment is welcomed in virtually any income-producing area of production, and tax holidays and other incentives are available. U.S. Government investment guarantees are available through the Overseas Private Investment Corporation.

Important private investment projects are now being formulated, especially in tourism, but their impact on overall development is yet to be assessed.

The United States is Haiti's most important trading partner, receiving considerably more than one half of Haiti's exports and providing about 45 percent of Haitian imports. The U.S. share of the Hai-

tian market has dropped some ten percent in recent years, however.

While there is undoubtedly room for improvement in export expansion programs of U.S. business firms trading with Haiti, the limited size of the economy ($110 million annually in foreign trade both ways) will militate against an all-out effort to recapture the historical U.S. share of the import market—unless and until important new loan-financed projects are set in motion which will require major imports of machinery, equipment, material and technical services. U.S. companies should be sharply on the lookout for developments in road-building, harbor improvement and housing.

Lively prospects

Haiti may well be approaching a take-off point in tourism, assuming continued governmental stability. Several enterprises are in the initial stages of developing touristic-industrial free port complexes, and the first new hotel construction in the country in many years is under way with more planned for the near future. The touristic potential of Haiti and the increasing number of visitors, combined with the current shortage of appropriate accommodations, all point to lively prospects for investment.

Active interest in light industry is expected to continue as more firms become aware of the advantages offered by off-shore assembly operations in Haiti: proximity to the United States, an active and able group of Haitian entrepreneurs, and a large pool of trainable labor available at comparatively low cost. The recent trend of growth in this industrial sector shows no sign of slackening. Housing construction may become a more dynamic area of the economy, thus opening possibilities for fairly large investment.

Elsewhere in Haiti's primarily agricultural, rural-based economy, viable investment prospects appear as yet limited.

Tanzania's Economy Judged Sound But Growth Capabilities Are Limited

Tanzania will be facing a period of financial austerity over at least the next year as it strives to balance fiscal resources and development aims. The economy is sound but the U.S. Embassy in Dar es Salaam thinks it unlikely that the rate of growth will improve markedly over the next few years.

This East African nation has had a remarkable history of political and social stability since independence and until two years ago had an equally stable economic history. However, in late 1970 Tanzania's rate of growth began to strain available resources. To maintain the growth rate and protect foreign exchange reserves the Government has imposed a series of increasingly severe restraints on credit, imports, and the use of foreign exchange. The Government has also been forced to scale back its own spending and in 1972-73, for the second year in a row, has found itself unable to fund any new major development projects.

Tanzania is developing its economy and society through an egalitarian, socialist program. Not only are the major means of production and distribution controlled by the Government but these entities are also being used to limit the growth of income disparities.

Government and Party leaders are forbidden to have outside-income-producing positions or investments, luxury sales taxes are the rule, and importation of luxury items (including private automobiles) is restricted.

Other restrictions

Opportunities for private investment by other Tanzanian residents have also been limited: nationalizations in the industrial and commercial sectors, the encouragement of cooperative movements and other "peoples' institutions" into the retail field, and legal ceilings

TANZANIAN STUDENTS—*An experiment is carried out in the science laboratory of Tanga Secondary School. Educational facilities in Tanzania are being improved.*

and control on the value and ownership of private property have all been used to close off sectors of potential investment.

The sum total of these efforts has been to reduce confidence among the small resident middle class. As a result, over the past year there has been a steady shrinkage in the size of the private professional and business community in Tanzania.

The primary vehicles for Government control of the monetary sector of the economy are a number of semi-public corporations known locally as "parastatals." The parastatals are involved in a wide range of activities ranging from banking and insurance to heavy construction. Two of the largest of these firms are the State Trading Corporation (STC) and the National Development Corporation (NDC).

Tanzania is focusing more and more of its efforts on development of agriculture. The Government has adopted a dual approach to this problem. In the first instance there is direct and traditional government intervention through cooperatives, marketing boards, subsidized state farms and other large size rural production units.

The other approach to rural development is the Ujamaa Village concept. These "self help" villages have their nearest western equivalent in the Israeli Kibbutz although the Ujamaa principle also has significant roots in traditional African culture. The Government hopes to increase the productivity of the farmers living in these villages through the encouragement of communal efforts. Ujamaa villages have more ideological than economic significance at the present time.

In 1971 U.S. trade with Tanzania declined although the drop is somewhat illusory. The 1970 figures were swollen by the addition of a DC-9 aircraft sold to East African Airways but registered in Tanzania. Given current foreign exchange and import limitations it is difficult to envisage any early dramatic increase in U.S. trade with Tanzania.

American businessmen seeking trade opportunities in Tanzania will almost certainly find themselves dealing with one or another government or parastatal organization. All of these organizations are price and term conscious and this puts American producers of generalized goods and particularly consumer items at a competitive disadvantage in the face of sales efforts from such low-cost producers as Hong Kong, India and the People's Republic of China.

The Chinese enjoy another advantage in this market as their sales to Tanzania are officially encouraged by the Tanzanian Government. Proceeds from such sales are applied against certain portions of a $201 million loan which the Chinese have given to the Tanzanians to finance a railway link between Dar es Salaam and Zambia.

Manufacturers of specialized farming, industrial, and other machinery will continue to find a market in Tanzania although it is necessarily limited by sparse population, low income and a modest growth rate. The provision of goods and services to the tourist industry and to agricultural industries would also seem to offer prospects for future sales. Any large-scale enterprise, however, would likely have to be carried out in conjunction with the Government or a parastatal organization.

Many businessmen are unaware of the opportunities open to them under regulations of international aid and development organizations, which generally require international tendering. Distance and freight differentials often discourage American suppliers from responding to these tenders.

However, American specialized products, particularly in technical fields such as road construction, enjoy a high reputation and their supply could be a profitable opportunity for U.S. business.

Senegal's Upturn After Bad Crop Enhances Market

Senegal has staged a considerable economic recovery since last year's disastrous peanut harvest.

Peanut production in the West African country is up 50 percent above the previous crop with further gains possible next year. Higher producer prices and administrative changes have largely eliminated the past season's sour mood in the countryside. Steps toward agricultural diversification are making visible progress, world price increases have favored Senegal's one mineral resource, phosphates, and the fishing industry has made record gains. Development of the tourist industry, still in an early stage, is showing promise.

On the other hand

The U.S. Embassy in Dakar cautions, however, that against this progress must be weighed certain failings and structural weaknesses. The balance of payments situation is not yet serious (partly thanks to French aid), but Senegal continues to run an increasing trade deficit, which will be difficult to reverse given the lack of natural resources. The small size of the country makes development of an internally oriented industrial sector extremely difficult.

Agricultural diversification is largely limited to import substitution and provides no major alternatives to continued dependence on the peanut crop for exports. Finally, the near total reliance on external financing for economic development continues to leave the future progress of the economy open to delays and stoppages outside Senegalese control.

U.S. economic relations with Senegal are limited, with potential for some expansion in the areas of

PEANUT PRODUCTION IS UP IN SENEGAL—*Output is 50 percent higher than the previous crop. The Senegalese are working to improve yields and lower costs.*

investment and sale of heavy duty or sophisticated machinery. Some expansion in the retail sector is possible but this area remains difficult and of limited interest to American concerns.

At present, American investment in Senegal is limited to about $20 million, exclusive of petroleum exploration, in which approximately $30 million has been invested without result to date. Mobil, Texaco and Esso distribute in Senegal, and Esso and Texas Gulf Sulfur are continuing oil exploration on a limited basis.

BUD-Senegal, a mixed American-Senegalese company, has begun commercial production of vegetables for shipment to the European off-season market and hopes to reach an annual production of 100,000 tons by 1978. Builders International Inc. has completed a $5 million housing unit near Dakar.

Local firms with U.S. financial interests include the Taiba Phosphate mines, the Sofrigal fish processing plant, and the four commercial banks. Intercontinental Hotel Corp. appears well launched on negotiations for construction of a hotel in Dakar.

Although the United States has maintained a favorable trade balance with Senegal for several years, various factors limit rapid trade expansion. Senegal is a member of the Yaoundé convention between 18, mostly former French, African states and the EEC. This convention provides Common Market suppliers with a favorable tariff position vis-à-vis U.S. concerns.

Imports from the United States are also subject to lengthy licensing procedures which often incline local purchasers to EEC goods even when U.S. products are cheaper or of better quality. Two other problems faced by American exporters are that all correspondence, documentation, catalogs and price lists need to be in French, and limited and irregular shipping from the United States requires local distributors to maintain larger inventories than would be required with European goods.

Despite these obstacles, U.S. goods do enjoy a certain popularity and reputation for quality and a slowly growing number of importers, particularly Senegalese, are willing to take the trouble to acquire licenses. A slow expansion of trade is probable, but requires an effort on the part of U.S. exporters which may not always be justified by the size of the market.

Products are required

Opportunities for more significant trade do exist in the field of heavy capital goods, where products are required either for projects called for by Senegal's development plans or larger investments which acquire the right to duty-free importation of manufactured goods. The demand for agricultural machinery and processing equipment is likely to grow. Several road construction projects are either under way or proposed. If the World Bank approves Senegal's application for creation of an approximately $85 million supertanker repair facility, this project will also provide an opening for American trade.

Against these opportunities must be set the entrenched presence of European firms and distributors, mostly French, whose reputations and contacts are well established.

The possibilities for American investment in Senegal are growing, but caution is recommended for potential investors. The Senegalese government is most receptive to American investment. The investment code is quite flexible in its application. Basically, firms investing $400,000 over three years or creating at least 50 permanent jobs for Senegalese are "priority holding" under the investment code and will receive tax and duty free import status for up to five years.

However, the code permits granting of the same status for lesser investments which develop the export sector, are located outside the area of the Cap Vert Peninsula, or implement projects called for by the Development Plan. Additional benefits are also possible and can be negotiated.

Among the barriers to investment are the small size of the domestic market, the unavailability of long-term financing within Senegal, the scarcity of domestic capital for investment, and the fact that much of Senegal's development will continue to depend on exterior financing and markets for primary products, over which the Senegalese exercise little control.

Senegal has a comparatively well developed infrastructure with its port, airport (now being improved to handle 747's) and well developed communications system. The labor force is relatively well trained and presently under-utilized. The coastal climate is temperate. Tourism is probably the most favorable area for investment.

Malawi's Economy Is Doing Well; U.S. Has Potential To Gain Sales

Malawi's economy is performing well this year, but below the buoyant performance of 1971. Real growth in gross domestic product is expected by the U.S. Embassy in Blantyre to fall in the 4-6 percent range, which will be in line with the average achieved since 1964.

The southeast Africa nation made an extremely strong economic showing in 1971, achieving a growth rate of 8.7 percent in constant (1964) prices. Total GDP climbed to $271 million in 1964 prices, $383 million in current prices.

With 1971's excellent economic performance, the average annual real growth rate from 1964 to 1971 stands at 5.9 percent—a highly respectable performance considering the country's predominantly agricultural economy, high population density, and lack of natural resources. In spite of the good rate of economic growth, however, per capita income remains relatively low at $84 in current prices.

With no hitherto exploitable natural resources and only a very small industrial sector, Malawi is heavily dependent on agriculture. Over 90 percent of the population is engaged in agriculture and agricultural products represented 93 percent of domestic exports in 1971. Thus Malawi's recent economic progress has been chiefly attributable to the growth in agricultural production.

Favorable results

In 1971 the value of agricultural output increased by 12.5 percent. Although good weather and firm world prices for chief crops were major factors in the good showing, there is strong evidence that the substantial investment which the Government has made in agriculture is producing favorable results.

The sharp increase in agricultural incomes in 1971 contributed to increases in the output of the manufacturing and distribution sectors of 8.8 and 10.5 percent.

The rate of growth in manufacturing, however, was down from the 20 percent figure posted in 1970. Taken together with the absolute decline in the output of building and construction of 5.8 percent, this indicates that the rapid expansion of industry since 1966, particularly of import-substitution industries, has leveled off.

The major development in the commercial field in 1971 was the continuing expansion of the commercial activities of the Malawi Government. Working through various parastatal agencies such as the Malawi Development Corporation, the Government has acquired either majority or minority interest in a wide range of enterprises and has become a major factor in both industry and commerce.

Tourists aren't coming

A vigorous tourist promotion program has not produced the hoped for results. The total number of visitors was down slightly in 1971 to 19,200 and the first quarter of 1972 was running about the same as the previous year. Most observers attribute this to the government's strict code on women's dress (recently relaxed) and to guerrilla activity in Mozambique along the main road linking Malawi to Rhodesia and South Africa.

One of the major spurs to Malawi's economic growth since independence has been a relatively high level of development expenditures financed by foreign development loans. The development program for FY 1972-73 calls for expenditure of $37.5 million—a slight drop from the $39.6 million allocated for the previous year.

Malawi has continued to be successful in securing development loans from a variety of foreign countries and international institutions. In 1972-73, all but $7.2 million of the development budget will come from foreign lenders, mostly on soft terms.

The exceptionally buoyant economy in 1971 resulted in regular government revenue being $3.2 million above estimates. With tight controls on expenditures, the Government was therefore able to eliminate a small deficit carried over from previous years and draw only about one third of a scheduled British budget subsidy of $3.1 million. It is now expected that FY 1972-73 will be the last year in which a budget subsidy will be required.

One major problem

One major problem for the Government has been a relatively high level of inflation which is creating pressures on both the development and regular budgets. Prices are estimated to have increased by approximately 8 percent in 1971 reflecting worldwide inflationary pressures, import prices, and a 30 percent expansion in domestic credit generated by the buoyant economy. The Government has endeavored to curb the inflationary pressures through wage and price controls but with only limited success thus far.

Total Malawi exports increased by 19 percent over 1970 to $70.3 million while domestic exports were up 22 percent. Imports increased by only 9 percent to $83.3 million so that the Malawi trade deficit declined to $23 million. As in past years, this trade deficit largely reflects the capital imports for the country's development projects and is financed on capital account by inflows of development loans.

Foreign exchange reserves increased by $1.2 million during 1971 and at the end of the year stood at $27.2 million. This represents 3.6 months of imports and is gen-

erally considered adequate import cover.

In the first quarter of 1972, total exports were up 4 percent over 1971. However, total imports increased 48 percent over the same period in 1971, giving rise to concern that the trade deficit is widening in 1972.

Discussions with EEC

Britain remained Malawi's largest trading partner in 1971, taking 43 percent of exports and supplying 28 percent of imports. With Britain's impending entry into the EEC, the Malawi Government has opened discussions with the EEC on possible trade relationships.

In the international currency realignment in December 1971, the gold value of the Malawi kwacha remained unchanged and was pegged to the pound sterling in movements against other currencies. This meant that the U. S. dollar was devalued by 8.5 percent in terms of the kwacha.

The United States has traditionally held only a very small share of Malawi's import market. However, the steady if unspectacular growth of the country's economy offers opportunities to U. S. firms willing to enter what is now a relatively small market and grow with it.

MALAWIAN HARVEST—*Rice is gathered at a farm near Zomba. Malawi's recent economic progress is due mainly to improved agricultural output.*

Imports from the United States totaled $4.3 million in 1971 compared with $4.4 million in 1970. With the overall growth of imports, the U. S. market share declined marginally from 5 percent to 4 percent. This is believed to stem from the drop off in general construction activity which has adversely affected demand for heavy construction equipment—a major U. S. import into Malawi.

Not insurmountable

The small U. S. share of the Malawi market is generally attributed to the traditional trade ties to Britain, preferential tariffs for U.K. goods, and the lower transport costs from South Africa and Rhodesia. However, the inroads of the Japanese into the Malawi market have demonstrated these are not insurmountable obstacles.

The devaluation of the dollar puts the United States in a somewhat stronger position particularly vis-a-vis Britain and provides the United States with at least the potential to improve its market position. On the other hand, competition from South Africa, which devalued by 12 percent, can be expected to become more intense.

The opportunities for U. S. business can be divided into two broad categories—capital goods and consumer goods. Capital goods for use in the country's development projects have traditionally been the largest category of U. S. imports. These have included tractors and spare parts, heavy construction equipment, and structural steel. The demand for heavy construction equipment has slackened with the completion of several large road projects and a decline in construction activity.

On the other hand, agriculture is now both the area of greatest development stress and the fastest growing sector. Therefore there should be a steady, although gradual, expansion of demand for agricultural machines and tools, fertilizers, and pesticides. Also agricultural processing industries will be gradually expanding—particularly in tobacco, sugar, and peanuts—and will be requiring modest amounts of new and replacement machinery.

In the past, the United States has sold little in the way of consumer goods to Malawi with the bulk of these being provided by Britain and South Africa. However, with the emergence of various semi-governmental trading firms, a restructuring of the wholesale-retail sector has taken place which has created certain opportunities for U.S. products.

U.S. firms can enter

The new companies lack the long-established trade ties to the United Kingdom of the older companies and are actively seeking to expand their sources of supply. These firms therefore represent potential channels through which U.S. firms can enter the Malawi market.

The products which the parastatal trading companies appear most interested in are processed foods (particularly milk products), pharmaceuticals, household electrical appliances, refrigeration equipment, and second-hand clothing.

In the investment field, the Mulanje bauxite deposit is believed to offer considerable potential for participation by U.S. aluminum companies. Lonrho, which holds the rights to the deposit, has completed testing to determine the size and composition of the deposit and its report is expected sometime in the third quarter of 1972. Reliable estimates at this point place the size of the deposit at 65-90 million tons. A specific determination on the feasibility of the project will also require further data on electrical costs and rail rates.

International Business Reports

How to Approach the China Market. Published by the Japan Externa! Trade Organization. 250 pp. $14.95.

The Japan External Trade Organization is a semi-governmental agency known as JETRO. This English language edition of JETRO's original Japanese publication is a working manual containing facts and statistics for businessmen interested in trading with China.

It examines China trade, from the fundamental organizations and systems for Chinese foreign trade to travel procedures that should be observed when traveling to and within China.

Subjects discussed include import programs and trade settlement formulas; foreign trade control systems; the composition of import and export goods; China's domestic economic develoment and trade volume; and growth potential of the Chinese market.

Also highlighted is a detailed presentation of Japan-China trade relations.

Write: Halsted Press, 605 Third Ave., New York, N.Y. 10016.

The Control of Imports and Foreign Capital in Japan. By Robert S. Ozaki. Praeger Special Studies. 330 pp. $18.50.

This study of Japan's protectionist policies in regard to imports and foreign capital since World War II includes the recent gradual liberalization. Several documentary sources are appended. Japan's economy has boomed, the author concludes, because of—as well as in spite of—protectionism.

Write: Praeger Publishers, 111 Fourth Ave., New York, N.Y. 10003.

Calendar For World Traders

Sept. 19 — Kansas City — Meeting for exporters, TWA Breech Training Academy, 6:30 p.m. Sponsor: International Trade Club of Kansas City.

Sept. 19—Memphis—National Maritime Council Forum, Sheraton Motor Inn. Sponsor: World Trade Club.

Sept. 19 — Memphis — Reverse investment seminar, Sheraton Peabody. Sponsor: Chamber of Commerce.

Sept. 20-21 — New York — DISC Seminar, World Trade Institute, World Trade Center.

Sept. 21—Cleveland — CSU-Cleveland World Trade Assn. DISC Seminar, Statler-Hilton Hotel.

Sept. 21—Little Rock—Arkansas Exporters Roundtable.

Sept. 21—New York—FCIB Drug, Chemical & Food Export Club luncheon meeting, Advertising Club, 12:15 p.m.

Sept. 22 — Charleston, S.C. — Consultations with John Blodgett, Commercial Counselor at the U.S. Embassy in The Hague, Commerce Field Office.

Sept. 24-28 — Washington, D.C.— Third International Conference on Liquefied Natural Gas, Wash. Hilton. U.S. sponsor: Institute of Gas Technology (Chicago).

Sept. 25 — Philadelphia—First of twenty-six weekly sessions of Export-Import traffic course, Academy of Advanced Traffic.

Sept. 25-27 — Rotterdam, Netherlands—FCIB/Europe Roundtable Conference on Finance, Credit and Collection problems, followed by two-day workshop, Rotterdam Hilton Hotel.

Sept. 27—South Bend, Ind.—Michiana World Trade Club. Subject: East-West Trade.

Sept. 28 — Chicago — East-West Trade Conference, Sheraton-Blackstone, 9 a.m.-5 p.m. Sponsor: Chicago Assn. of Commerce and Industry.

Sept. 28—Oklahoma City—Second annual International Trade Symposium, How To Expand Exports, 9:30 a.m.-4 p.m. Sponsors: Oklahoma City Chamber of Commerce, Oklahoma State Fair, International Trade Club of Oklahoma City.

Sept. 29-30 — Washington, D.C. — Annual conference of Middle East Institute: World Energy Demands and the Middle East, Georgetown U. Law Center.

Oct. 2 — Atlanta — Consultations with John Blodgett, Commercial Counselor, U.S. Embassy, The Hague, Commerce Field Office.

Oct. 3 — New York — FCIB Luncheon on Credit and Collection Problems, Summit Hotel, noon.

Oct. 3—Skokie, Ill.—Export seminar, Chamber of Commerce.

Oct. 4—Birmingham, Ala.—Consultations with John Blodgett, Commercial Counselor at the U.S. Embassy in The Hague, Commerce Field Office.

Oct. 4—Sunnyside, Wash.—Export meeting, Safari Restaurant, 9 a.m.-2 p.m.

Oct. 5 — New Orleans — Consultations with John Blodgett, Commercial Counselor at the U.S. Embassy in The Hague, Commerce Field Office.

Oct. 5 & 12—Chicago—Seminar on principles and techniques of exporting, LaSalle Bank Bldg., 9 a.m.-5 p.m. Sponsor: International Trade Club.

Oct. 5, 12, 19 & 26—Memphis—Export educational seminar, College of Bus. Ad., Memphis State U. 7-9 p.m. Peter M. Flanigan, Asst. to the President for International Economic Affairs, will address the Oct. 26 session.

Oct. 30-Nov. 2—Amsterdam, Netherlands — Airline reliability and maintenance data systems workshop. Sponsor: Aero Data Inc., Syosset, N.Y. (516-364-0498).

Worldwide Business Services

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors overseas. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine. The section that follows presents details about licensing and joint venture proposals, opportunities to sell to foreign firms and government agencies and appoint agents, details on major construction and expansion projects and notices of U.S. visits by foreign buyers.

Licensing, Investment Abroad

AFGHANISTAN — "Private Industrial Investment in Afghanistan" is a 200-page publication prepared under AID auspices. It is a comprehensive and useful **guide for any firm or individual contemplating business in Afghanistan.** While prepared primarily for the use of potential investors, the booklet supplies insights and guidelines for contractors bidding on government projects financed by bilateral and multilateral foreign assistance loans. It will also prove useful for U.S. importers and exporters. A limited number of copies are available, free of charge upon request. When this supply is exhausted the booklet will be available only on a ten-day loan basis. Office of International Commercial Relations, BIC-896, U.S. Department of Commerce, Washington, D.C. 20230. P-72521.

SPAIN—To encourage development of the Canary Islands a series of fiscal incentives are available from the Spanish Government for companies investing in the **canning of fruits and vegetables, industrial refrigeration, tobacco fermentation, timber, woodworking industries, furniture, meat packing, fishing industries, textile industries, glass, plastics and printing industries.** Alberto Pico, Commercial Attache, Commercial Office of Spain, 870 Market St., Flood Bldg., San Francisco, Calif. 94102. P-72515.

0130—IVORY COAST—Partner sought for **stock raising** venture to develop 2,470 acres in the Boundoukou area for raising cattle, sheep and chickens and growing corn and sorghum for animal feed. American investor to provide technical assistance in setting up ranch. Company manages farm and forestry operations; sells agricultural machinery and supplies. Welcomes inquiries from companies seeking representative for agricultural machinery and supplies. Joseph Felquet, Managing Director, SOCIAGRI, B.P. 20881, Abidjan. WTD. P-72533.

2399 — JAPAN — Licensing arrangement sought by firm with manufacturing activities in leather and sports goods to **produce emblems** for professional sports organizations. Firm has 90 employees and claims annual sales of around $6.5 million. Hiroshi Shirai, Managing Director, International Trade Inc., Nippon Bldg., 6-2 Ohte-machi 2-chome, Chiyoda-ku, Tokyo 100. WTD. P-72528.

2600, 2700, 3079—SWITZERLAND—Established manufacturer of office work organizing items, folders and filing systems seeks licenses for **data binders; filing systems for EDP software; work organizing items utilizing cardboard, plastics and other bookbinding materials; original fancy decorative items for dinner tables, household use such as table sets made from paper, cardboard, or plastics.** Has new, automated plant; employs 120. Annual sales about $2 million. Messrs. Ruegg and Isler, Baumann AG, 8703 Erlenbach, Switzerland. WTD. P-72534.

2800 — AUSTRALIA — Well established chemical firm seeks licensing, distribution agreements for **chemicals or allied products.** Exports 40 percent of production. Good connections in agricultural and industrial markets. Keith R. Bracken, Managing Director, Hardman Chemicals Pty. Ltd., Seven Hills, N.S.W. 2147, Australia. WTD. P-72516.

2844—SWITZERLAND—Prominent, fast growing firm seeks long-range licensing agreement or joint venture for **decorative cosmetics** with manufacturers not currently represented in Europe. Produces and markets high class, expensive cosmetics throughout Europe. Maintains subsidiaries in Germany, Italy and Spain. Annual sales $50 million. Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. WTD. P-72522.

3079 — GERMANY — Manufacturing rights for plastics products for the **construction industry and hobby market.** U.S. licensor would furnish raw material and technical know-how. German firm specializes in production of plastic building and roofing materials. Also makes wood mouldings and school furniture. Employs around 400. Kurt W. Strasburger, Ferdinand Wilhelm Wagner KG, 5470 Andernach, P.O. Box 560, Germany. WTD. P-72514.

3200 — SAUDI ARABIA — A recently completed marketing and finance study found that all five raw materials necessary to produce **ceramics and porcelain** are abundantly available within the country. Copies of the study are available at $1,300 each from Dr. A. S. Osman, Industrial Studies and Development Center, Ministry of Labor, Riyadh. P-72531.

3444 — CANADA — Fabricator of **sheet metal products and light structural assemblies** seeks to manufacture similar items under license from an American firm. Desires U.S. machinery and equipment in return for royalty payments on manufactured items. Currently does no marketing but prepared to do so for new products. Murray S. Kerson, President, Murray Kerson & Co., Ltd., 599 Cure Boivin St., Ste. Therese West, P.Q., Canada. WTD. P-72530.

3500—MEXICO—Large steel company seeks joint ventures. Wants to manufacture **plastic processing equipment, including extruders; chemical, drug and food processing equipment; and street sweepers, sprinklers, related equipment.** Firm produces steelplate and pipe, alloys, tinplate, high pressure tanks, structural fabrications. Ing. Carlos Ruiz Gonzalez, Planning and Projects Director, Altos Hornos de Mexico, S.A. (AHMSA), Plaza de la Republica No. 43—2° piso, Apdo. Postal 1077, Mexico 1, D.F., Mexico. WTD. P-72535.

3500 — UNITED KINGDOM — Modern **metalworking plant** offered to U.S. buyer. Built in 1968, contains new machine tools, support equipment. Uses latest production technology. Ideally

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20203."P" numbers should be used when responding to specific proposals.

WTD indicates that a World Trade Directory Report containing financial and background information on the foreign firm is available for $2 from the Department of Commerce, BIC-924, Washington, D.C. 20230, or from any Commerce Field Office.

suited for heavy engineered products such as special machinery, power generation equipment, pumps and turbines and farm and construction equipment. Located on 46 acre site; skilled labor and present management available for immediate start-up. Julian Jaret, Director of Marketing, Ingersoll Manufacturing Consultants Inc., 707 Fulton St., Rockford, Ill. 61101. (815-963-6461.) P-72536.

3522 — AUSTRALIA — Manufacturer of agricultural equipment seeks licenses to produce **continuous flow dryers.** The firm's product line includes grain augers, air drying equipment and steel silos. It employs 26. Miitze Engineering Works, Hospital Road, Dalby, Queensland 4405, Australia. WTD. P-72513.

3559 — JAPAN — Seeks advanced technology and equipment for **cleaning domestic and industrial waste water** for recycling. Interested in licenses, joint ventures. Anticipates more stringent government standards for water quality. Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. WTD. P-72518.

3559 — SWITZERLAND — Licenses to manufacture **solid waste and garbage collection, transportation and handling equipment; compactors, shredders and other machinery for waste treatment plants; waste recycling equipment; and large industrial air filtering and washing systems.** Firm produces machinery for chemical, water treatment and related applications. Maintains modern facilities; R & D department engaged in developing pollution control systems. W. E. Meier, Geilinger Stahlbau AG, Schutzenmattstr., 8180 Bulach, Switzerland. WTD. P-72517.

3561—UNITED KINGDOM—Licenses to manufacture **water jet propulsion systems** for 30- to 80-foot-long high-speed patrol craft. Firm currently produces military boats, is expanding into yacht marina business. Subsidiary of major group. Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. P-72523.

3569 — SWITZERLAND — Manufacturer of water treatment equipment seeks to diversify. Wants licenses to produce **water treatment equipment and systems for swimming pools, food and beverage industries; water disinfecting and purification equipment, deodorizing devices; and industrial and municipal waste water treatment systems and machinery.** Employs about 70, represented in most European countries. Affiliate of important Swiss food company. Mr. A. Jermann, Director, Pretema AG, 8903 Birmensdorf, Switzerland. WTD. P-72511.

3569—UNITED KINGDOM—Firm seeks to manufacture **pollution control equipment** under license. Particularly interested in dust control and gas cleaning equipment such as scrubbers, filters, cyclones; odor control equipment; effluent treatment devices; small industrial type furnaces. Employs 160. Christopher Manners, Managing Director, Jordan Industries Ltd., Stover Estate, Yate, Bristol BS17 5JW, England. P-72512.

3622—ARGENTINA—Licenses sought to produce **numerical control systems for cutting and forming machine tools** by machine tool manufacturers planning new plants in San Francisco Industrial Park, Cordoba Province. S. P. Merolla, UNIDO, c/o Parque Industrial San Francisco, Bvd. 25 de Mayo 1602, San Francisco, Pcia. de Cordoba, Argentina. P-72519.

3662 — UNITED KINGDOM — Licensing or joint venture arrangement sought to manufacture **new and innovative microwave products** by producer of precision attenuators, frequency meters, phase changers, directional couplers and detector-mixer units. Established in 1956, firm has 35 employees, makes 360 different items from 12 basic microwave devices and exports 25 percent of production through nine agents to EEC and EFTA countries. Flann Microwave Instruments Ltd., Dunmere Rd., Bodmin, Cornwall, England. Attn: Bernard Fleming, Managing Director. P-72526.

3662—UNITED KINGDOM—Producer of VHF and loop antenna communications systems and office intercoms seeks licensing or joint venture arrangement to manufacture such **new and advanced communications products as paging systems, office intercoms and similar developments.** Firm employs 36 plus 3 salesmen covering England and Wales. Radio Intercom Ltd., Ottery St. Mary, Devonshire, England. Attn: D. G. Huntingford, Managing Director. P-72524.

3679—UNITED KINGDOM—Producer of miniature plug-in relays, AC and DC solenoids and coil winders seeks licenses to manufacture **new or innovative relays or solenoids.** Firm is leading U.K. producer of cradle relays, was established in 1898, employs 900 and has agents throughout Europe and the Commonwealth countries. Office of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230. WTD. P-72527.

3679 — UNITED KINGDOM — Licensing or joint venture arrangement sought by producer of precision metal film resistors to manufacture **new or innovative thick film resistors or such small electrical components as miniature relays or circuit breakers.** Firm established in 1967 and employs 35. Holsworthy Electronics Ltd., Holsworthy, Devonshire EX22 6JE, England. Attn: D. J. Hews, Managing Director. P-72525.

3731—BRAZIL—State of Rio Grande do Sul seeking technical expertise and foreign capital for establishing **ship repair yard** with capacity up to 70,000 tons. Local business consortium to provide part of financing which may also involve the state government. Robert Pires Pacheco, Secretary of Industry and Commerce, Rua Caldas Junior, 120, 15th Floor, Porto Alegre, Rio Grande do Sul, Brazil. P-72532.

3800 — UNITED KINGDOM — Licensing, joint venture, or agency arrangement sought by major producer and distributor of instruments and devices in fields of chromatography, electrophoresis, weighing, general laboratory apparatus, physical chemistry, metallurgy and mineralogy, general and electrical instrumentation, and biological, clinical and histological apparatus. Firm is interested in any **new and innovative products in the life sciences and industrial analytical fields.** Product literature invited. Firm has large and sophisticated marketing and service organization, and exports about 70 percent of its manufactured products. J. M. Newman, Marketing Director, Shandon Southern Instruments Ltd., Frimley Rd., Camberley, Surrey, England. WTD. P-72529.

Licensing In U.S.

For additional information on opportunities to manufacture foreign firm's products in the U.S., write Commerce's Office of International Investment, BIC-874, U.S. Department of Commerce, Washington, D.C. 20230 (202-967-2248), referring to the appropriate file number.

FRANCE—Firm is seeking a U.S. company to produce under license its patented **electrically heated hair curler** with a thermostatically controlled heating element. File 2263

FRANCE — A firm manufacturing **presses and a variety of other products** seeks an American firm with whom a cross-licensing agreement and an exchange of patents could be made. The company makes products used in foodstuff manufacturing (sterilizers and fish cannery engineering), chemical industry (reactors, high performance furnaces, special exchangers, mixers), heavy metal construction (barges, platforms, special port equipment), nuclear industry (reactor operating equipment, isotopic generators, spectrometers, bubble chambers, vacuum chambers). File 2057-R

GERMANY—A large manufacturer of **household appliances** is offering its line for production in the U.S. The line includes refrigerators, freezers, laundry machines, dish washers, electric and gas ranges, blenders, mixers, coffee machines, toasters and other. The company is also interested in cross-licensing. File 2264

SWITZERLAND — An electric utility company is offering for manufacture in the U.S. **control equipment for use at small, remote power distribution stations.** The system's hardware consists of silicon transistors and integrated circuits of the HTL series. The input mechanisms are printed cards and telegrammed impulses. File 2265

SWITZERLAND—A joint venture company is offering for U.S. manufacture under license its patented **electric heating panels** for which it was awarded a gold medal at the Brussels Inventors Fair. The panels of fiberglass and forms of plastic are the heat radiating types, which can be installed in walls, floors or ceilings. Licensing negotiations are under way with French, Japanese and Australian companies. File 2266

SWITZERLAND—A processor of dairy products—milk, cheese specialties, desserts and yogurts—is offering its know-how for U.S. production of a relatively **new pudding.** The basic ingredient is milk, but the pudding has a four-week shelf life without special storage conditions. According to the company 40 million of these puddings were sold last year in a country with total population of six million. The company is also interested in cross-licensing. File 2267

SWITZERLAND—A small manufacturer of specialty machine tools and accessories is offering manufacturing rights for its **tube bending and deburring machines.** In addition, the company is seeking a jobber in the U.S. for manufacture of dies used in connection with an adjustable ratchet threader. File 2268

Foreign Nations' Offices In U.S. Offer Investment, Licensing Help

Overseas investment and licensing activities lead many U.S. firms to seek current information on the economy, sources of financing, taxes, investment legislation and investment incentives, etc. on a particular country of interest. This article provides a listing of U.S. offices of foreign nations that are able to provide a wide range of services to facilitate investment in their countries.

Many of the offices listed below can identify potential local participants and assist businessmen planning visits to their countries by making referrals to appropriate government and industry officials. This listing includes all of the foreign government and other offices that have specifically asked to be placed on this list and is not an indication of the degree of interest in encouraging U.S. investment on the part of individual countries.

For investment information on countries not represented on this list, it is suggested that inquiries be directed to the country's embassy in Washington. Embassies and consular offices are frequently in a position to supply advice and guidance.

Also included in this list are two multinational organizations which can provide finance, legal and technical assistance, and investment insurance for certain ventures. Companies with well-developed potential investment projects may wish to discuss them with these organizations. The International Finance Corporation interests are limited to member countries and, like those of the Overseas Private Investment Corporation, to developing countries.

The Commerce Department cannot assume responsibility for the completeness of this list. It welcomes information and details on establishment of new offices, directed to the Offices of International Investment, BIC-878, U.S. Department of Commerce, Washington, D.C. 20230.

ARGENTINA

Embassy of the Argentine Republic, 1600 New Hampshire Ave., N.W., Washington, D.C. 20009, 202-332-7100.

AUSTRALIA

Australian Embassy, Attention: Minister (Commercial), 1601 Massachusetts Ave., N.W., Washington, D.C. 20036, 202-797-3000.

Australian Senior Trade Commissioner, Australian Consulate General, 636 Fifth Ave., New York, N.Y. 10020, 212-245-4000.

Australian Trade Commissioner, Crocker Plaza, 1 Post St., 8th Floor, San Francisco, Calif. 94104, 415-362-6160.

Australian Senior Trade Commissioner, Australian Consulate General, 3550 Wilshire Blvd., 17th Floor, Los Angeles, Calif. 90010, 213-380-4610.

Australian Trade Commissioner, Australian Consulate General, One Illinois Centre, Suite 2212, 111 East Wacker Drive, Chicago, Ill. 60601, 312-329-1740.

New South Wales Center, Suite 6259, North-East Plaza, Five World Trade Center, New York, N.Y. 10048, 212-432-0155.

Sydney Morrell & Company (For Victoria), 152 East 78th St., New York, N.Y. 10021, 212-249-7255.

AUSTRIA

Embassy of Austria, Attention: Commercial Attache, 2343 Massachusetts Ave., N.W., Washington, D.C. 20008, 202-483-4474.

Austrian Trade Delegate, 845 Third Ave., 21st Floor, New York, N.Y. 10022, 212-421-5250.

Austrian Trade Delegate, 332 South Michigan Ave., Suite 1401, Chicago, Ill. 60604, 312-427-9629.

Austrian Trade Delegate, 3440 Wilshire Blvd., Los Angeles, Calif. 90010, 213-380-7990.

BARBADOS

The Barbados Industrial Development Corporation, 801 Second Ave., 2nd Floor, New York, N.Y. 10017, 212-686-5943.

BELGIUM

Belgian Consulate General, Industrial Section, 50 Rockefeller Plaza, Suite 1104, New York, N.Y. 10020, 212-JU-6-5110.

BRAZIL

Embassy of Brazil, Attention: Commercial Attache, 3007 Whitehaven St., N.W., Washington, D.C. 20008, 202-265-9880.

Brazilian Government Trade Bureau, Department of the Consulate General of Brazil, 551 Fifth Ave., New York, N.Y. 10017, 212-682-1055.

Brazilian Consulate General, 630 Fifth Ave., New York, N.Y. 10020, 212-757-3080.

Brazilian Consulate General, 20 N. Wacker Drive, Suite 530, Chicago, Ill. 60606, 312-372-2176.

Brazilian Consulate General, 1306 International Trade Mart, New Orleans, La. 70130, 504-525-9874.

Brazilian Consulate General, 5900 Wilshire Blvd., Los Angeles, Calif. 90036, 213-937-5166.

Brazilian Consulate, 3400 Montrose Blvd., Suite 500, Houston, Tex. 77006, 713-526-3941.

Brazilian Consulate, 100 N. Biscayne Blvd., Miami, Fla. 33132, 305-377-1734.

CANADA

Canadian Embassy, Attention: Commercial Counselor, 1746 Massachusetts Ave., N.W., Washington, D.C. 20036, 202-785-1400.

Canadian Consulate General, Attention: Senior Trade & Industry Counselor, 1251 Avenue of the Americas, Suite 1080, New York, N.Y. 10020, 212-247-2744.

Canadian Consulate General, Attention: Consul & Senior Trade Commissioner, 500 Boylston St., Boston, Mass. 02116, 617-262-3760.

Canadian Consulate General, 900 Coastal States Bldg., 260 Peachtree St., N.E., Atlanta, Ga. 30303.

Canadian Consulate, Attention: Consul & Trade Commissioner, 1400 Main Place, 396 Main St., Buffalo, N.Y. 14202, 716-852-1247.

Canadian Consulate General, Attention: Commercial Division, 310 South Michigan Ave., Suite 2000, Chicago, Ill. 60604, 312-427-1031.

Canadian Consulate General, Attention: Consul & Senior Trade Commissioner, Illuminating Bldg., 55 Public Square, Cleveland, O. 44113, 216-861-1660.

Canadian Consulate, Attention: Consul & Trade Commissioner, 2100 Adolphus Tower, 1412 Main St., Dallas, Tex. 75202, 214-742-8031.

Canadian Consulate, Attention: Consul & Trade Commissioner, 1920 First Federal Bldg., 1001 Woodward Ave., Detroit, Mich. 48226, 313-965-2811.

Canadian Consulate General, Attention: Consul & Senior Trade Commissioner, 510 West Sixth St., Los Angeles, Calif. 90014, 213-627-9511.

Canadian Consulate, Attention: Consul & Trade Commissioner, 15 South Fifth St., Minneapolis, Minn. 55402, 612-336-4641.

Canadian Consulate General, Attention: Commercial Division, 2110 International Trade Mart, No. 2 Canal St., New Orleans, La. 70130, 504-JA-5-2136.

Canadian Consulate, Attention: Consul & Trade Commissioner, 3 Parkway Bldg., Suite 1310, Philadelphia, Pa. 19102, 215-561-1750.

Canadian Consulate General, Attention: Consul & Trade Commissioner, Commercial Division, One Maritime Plaza, Golden Gateway Center, San Francisco, Calif. 94111, 415-981-2670.

Canadian Consulate General, Attention: Consul General & Trade Commissioner, 412 Plaza 600, Sixth & Steward, Seattle, Wash. 98101, 206-MU-2-3515.

Government of the Province of Alberta, Department of Industry & Commerce, Suite 703, 510 West Sixth St., Los Angeles, Calif. 90014, 213-624-6371.

British Columbia House, 3303 Wilshire Blvd., Suite 585, Los Angeles, Calif. 90010, 213-380-9261.

Government of Ontario, Attention: Manager, 11 East Adams St., Suite 705, Chicago, Ill. 60603, 312-922-2170.

Government of Ontario, Ministry of Industry & Tourism, 1251 Avenue of the Americas, Suite 1080, New York, N.Y. 10020, 212-247-2744.

Government of Ontario, Department of Trade & Development, 606 South Olive St., Suite 1001, Los Angeles, Calif. 90014, 213-627-3531.

Government of Ontario, Ministry of Industry & Tourism, 607 Boylston St., Suite 412, Boston, Mass. 02116, 617-261-8859.

Government of Ontario, Ministry of Industry & Tourism, Attention: Business Counselor, 230 Peachtree St., N.W., Suite 1834, Atlanta, Ga. 30303, 404-577-1883.

Government of Ontario, Attention: Trade & Industry Counselor, Fidelity Bldg., Room 923, 1940 East Sixth St., Cleveland, O. 44114, 216-861-7690.

Government of Ontario, Ministry of Industry & Tourism, Chamber of Commerce Bldg., Room 1256, 15 South 5th St., Minneapolis, Minn. 55402, 612-339-1800.

Quebec Government House, Rockefeller Center, 17 West 50th St., New York, N.Y. 10020, 212-581-0770.

Quebec Government Office, 72 West

Adams St., Chicago, Ill. 60603, 312-726-0681.

Quebec Government Office, Park Square Bldg., Suite 409, 31 St. James Ave., Boston, Mass. 02116, 617-426-2660.

Quebec Government Office, 1714 Adolphus Tower Bldg., 1412 Main St., Dallas, Tex. 75202, 214-742-6095.

Quebec Government Office, 510 West Sixth St., Suite 1202, Los Angeles, Calif. 90014, 213-680-9156.

CHILE

Corporacion de Fomento de la Produccion (CORFO), One World Trade Center, Suite 5151, New York, N.Y. 10048, 212-466-6700.

COLOMBIA

Colombia Information Service, 140 East 57th St., New York, N.Y. 10022, 212-421-8270.

Colombia Trade Development Bureau, 140 East 57th St., New York, N.Y. 10022, 212-758-4772.

COSTA RICA

Office of Economic Development, Embassy of Costa Rica, 2112 S St., N.W., Washington, D.C. 20008, 202-234-2945.

DOMINICAN REPUBLIC

Dominican Republic Consulate General, 30 Rockefeller Plaza, New York, N.Y. 10022, 212-CO-5-0630.

ECUADOR

Embassy of Ecuador, 2535 15th St., N.W., Washington, D.C. 20009, 202-234-7200.

EL SALVADOR

Office of Economic Development & Export Promotion, Minister Counselor for Economic, Financial and Commercial Affairs, Embassy of El Salvador, 2308 California St., N.W., Washington, D.C. 20008, 202-265-3480, 81, 82.

FINLAND

Embassy of Finland, Commercial/Economic Section, 1900 24th St., N.W., Washington, D.C. 20008, 202-462-0556.

Consulate General of Finland, Finland House, 540 Madison Ave., New York, N.Y. 10022, 212-832-6550.

Consulate General of Finland, 120 Montgomery St., San Francisco, Calif. 94104, 415-981-4656.

Consulate of Finland, 3600 Wilshire Blvd., Suite 1610, Los Angeles, Calif. 90010, 213-385-1779.

Finland Trade Commissioner's Office, Box 1484, 1111 Church St., Evanston, Ill. 60204, 312-491-0551.

FRANCE

French Industrial Development Agency, Rockefeller Center, 610 Fifth Ave., New York, N.Y. 10020, 212-PL-7-9340.

French Industrial Development Agency, 360 North Michigan Ave., Room 711, Chicago, Ill. 60601, 312-263-6067.

French Industrial Development Agency, 400 Montgomery St., Room 404, San Francisco, Calif. 94104, 415-781-0986.

GERMANY

German-American Chamber of Commerce, 666 Fifth Ave., New York, N.Y. 10019, 212-582-7788.

Office of the Representative, The City of Hamburg, 350 Fifth Ave., Suite 8201, New York, N.Y. 10001, 212-565-5281.

GHANA

Consulate General of Ghana, Ghana Trade & Investment Office, 150 East 58th St., New York, N.Y. 10022, 212-832-1300.

GREECE

Hellenic Industrial Development Corporation, 1290 Avenue of the Americas, New York, N.Y. 10019, 212-757-3523, 4, 5, 6.

GREAT BRITAIN

The Director, British Trade Development Office, 150 East 58th St., New York, N.Y. 10022, 212-593-2258.

British Consulate General, 225 Peachtree St., N.E., Suite 912, Atlanta, Ga. 30303, 404-524-2691.

British Consulate-General, Suite 4740, Prudential Tower, Prudential Center, Boston, Mass. 02199, 617-261-3060.

British Consulate-General, 33 North Dearborn St., Chicago, Ill. 60602, 312-346-1810.

British Consulate-General, 1828 Illuminating Bldg., 55 Public Square, Cleveland, O. 44113, 216-621-7674.

British Consulate-General, 1008 Detroit Bank & Trust Bldg., 211 Fort St. West, Detroit, Mich. 48226, 313-962-4776.

British Consulate-General, 1005 World Trade Centre, 1520 Texas Ave., Houston, Tex. 77002, 713-223-2301, 2, 3, 4.

British Consulate-General, Ammanson Center E. Bldg., Suite 312, 3701 Wilshire Blvd., Los Angeles, Calif. 90010, 213-385-7381 or 380-2630.

British Consulate, 700 Ingraham Bldg., 25 S.E. Second Ave., Miami, Fla. 33131, 305-371-7544, 5, 6.

British Consulate-General, 12 South 12th St., Philadelphia, Pa. 19107, 215-WA-5-2430.

British Consulate-General, Gateway Tower, Suite 700, 1 Memorial Drive, St. Louis, Mo. 63102, 314-621-4688, 89, 90.

British Consulate-General, Equitable Bldg., 120 Montgomery St., San Francisco, Calif. 94104, 415-981-3030.

British Consulate-General, 1216 Norton Bldg., 2nd Ave. and Columbia St., Seattle, Wash. 98104, 206-622-9253.

Commercial Department, British Embassy, 3100 Massachusetts Ave., N.W., Washington, D.C. 20008, 202-462-1340.

British Government Trade Office, 922 Midwest Plaza, 801 Nicollet Mall, Minneapolis, Minn. 55402, 612-335-0921.

British Consulate-General, Room 1202 First Hawaiian Bank Bldg., 165 South King St., Honolulu, Hawaii 96813, 808-536-1048.

British Consulate, P.O. Box 1307, Old San Juan, P.R. 00902, 769-4435.

British Government Trade Office, 813 Stemmons Tower West, 2730 Stemmons Freeway, Dallas, Tex. 75207, 214-637-3600.

Northern Ireland Industrial Development Office, British Consulate-General, 150 East 58th St., New York, N.Y. 10022, 212-593-2258.

GUATEMALA

Embassy of Guatemala, 2220 R St., N.W., Washington, D.C. 20008, 202-332-2865.

HAITI

Embassy of Haiti, Attention: Commercial Attache, 4400 17th St., N.W., Washington, D.C. 20011, 202-723-7001.

HONG KONG

Hong Kong Trade Development Council, 548 Fifth Ave., New York, N.Y. 10036, 212-582-6610.

Hong Kong Trade Development Council, 606 South Hill St., Suite 401/402, Los Angeles, Calif. 90014, 213-622-3194.

Hong Kong Trade Development Council, 333 North Michigan Ave., Suite 1511, Chicago, Ill. 60601, 312-726-4515.

ICELAND

Embassy of Iceland, 2022 Connecticut Ave., N.W., Washington, D.C. 20008, 202-265-6653.

INDIA

Indian Investment Centre, 708 Third Ave., New York, N.Y. 10017, 212-TN-7-3390.

INDONESIA

Indonesian Consulate General, Five East 68th St., New York, N.Y. 10021, 212-879-0600.

Embassy of the Republic of Indonesia, Economic Section, 2020 Massachusetts Ave., N.W., Washington, D.C. 20036, 202-293-1745.

Indonesian Consulate General, 334 World Trade Center, San Francisco, Calif. 94111, 415-982-8966, 67.

IRAN

Iranian Economic Mission, 5530 Wisconsin Ave., N.W., Washington, D.C. 20015, 301-654-7930.

IRELAND

Industrial Development Authority Ireland, 410 Park Ave., New York, N.Y. 10022, 212-371-8850.

Industrial Development Authority Ireland, 1 East Wacker Drive, Suite 2500, Chicago, Ill. 60601, 312-644-7474.

Industrial Development Authority Ireland, 44 Montgomery St., San Francisco, Calif. 94104, 415-434-4758.

ISRAEL

Government of Israel Investment Authority, 850 Third Ave., Suite 604, New York, N.Y. 10022, 212-PL-2-5600, Ext. 268.

Government of Israel Investment Authority, 659 South Highland Ave., Los Angeles, Calif. 90036, 213-938-3691.

Government of Israel Investment Authority, 111 East Wacker Drive, Suite 1308, Chicago, Ill. 60601, 312-644-4140.

ITALY

Embassy of Italy, Commercial Office, 2600 Virginia Ave., N.W., Suite 200, Washington, D.C. 20037, 202-337-3700.

Italian Trade Commissioner, One World Trade Center, Suite 2057, New York, N.Y. 10048, 212-432-9250.

Italian Trade Commissioner, Bank of America Center, Suite 2560, San Francisco, Calif. 94104, 415-398-1574.

Italian Trade Commissioner, 820 Statler Office Bldg., Boston, Mass. 02116, 617-426-3214.

Italian Trade Commissioner, 625 North Michigan Ave., Suite 411, Chicago, Ill. 60611, 312-787-3772.

Italian Trade Commissioner, 2245 Two Shell Plaza, 777 Walker St., Houston, Tex. 77002, 713-222-2229.

Italian Trade Commissioner, 500 Griswold St., Suite 2961, Detroit, Mich. 48226, 313-964-3970.

Italian Trade Commissioner, 1900 Avenue of the Stars, Suite 1870, Los Angeles, Calif. 90067, 213-879-0950.

Italian Trade Commissioner, International Trade Mart, Suite 2414, 2 Canal St., New Orleans, La. 70130, 504-JA-5-9366.

IVORY COAST

Embassy of the Republic of Ivory Coast, 2424 Massachusetts Ave., N.W., Washington, D.C. 20008, 202-483-2400.

Ivory Coast Development Office, Attention: Financial Counselor, 521 Fifth Ave., New York, N.Y. 10017, 212-869-1700.

Consulate of the Ivory Coast, 9000 Sunset Blvd., Suite 1402, Los Angeles, Calif. 90069, 213-272-5158.

JAMAICA

Jamaica Industrial Development Corporation, 200 Park Ave., Pan Am Bldg., New York, N.Y. 10017, 212-OX-7-1188.

JAPAN

Japan Trade Center, 393 Fifth Ave., New York, N.Y. 10016, 212-532-7191.

Japan Trade Center, 232 North Michigan Ave., Chicago, Ill. 60601, 312-726-4390.

Japan Trade Center, 1737 Post St., San Francisco, Calif. 94115, 415-922-0234.

Japan Trade Center, 727 West Seventh St., Los Angeles, Calif. 90017, 213-625-0731.

Japan Trade Center, Melrose Bldg., 1127 Walker St., Houston, Tex. 77002, 713-227-8318.

Japan Trade Center, 1447 International Trade Mart, 2 Canal St., New Orleans, La. 70130, 504-525-8266.

KENYA

Embassy of Kenya, 2249 R St., N.W., Washington, D.C. 20008, 202-387-6101.

KOREA

Korea Trade Promotion Center (KOTRA), Suite 4601, Empire State Bldg., 350 Fifth Ave., New York, N.Y. 10001, 212-594-9464.

Korea Trade Center, Occidental Center, 1149 South Hill St., Los Angeles, Calif. 90015, 213-748-5331.

Korea Trade Center, 111 E. Wacker Drive, Suite 519, Chicago, Ill. 60601, 312-644-4324.

Korea Trade Center, Room 250-C, World Trade Center, Ferry Bldg., San Francisco, Calif. 94111, 415-391-2637.

Korea Trade Center, 2001 Bryan Tower, Suite 257, Dallas, Tex. 75201, 214-748-9341.

LESOTHO

Embassy of the Kingdom of Lesotho, 1601 Connecticut Ave., N.W., Suite 300, Washington, D.C. 20009, 202-462-4190.

Lesotho Permanent Mission to the U.N., 866 U.N. Plaza, Suite 580, New York, N.Y. 10017, 212-421-7543.

LIBERIA

Embassy of Liberia, 5201 16th St., N.W., Washington, D.C. 20011, 202-723-0437.

B. M. Lawrence & Company, 351 California St., San Francisco, Calif. 94104, 415-981-3650.

LUXEMBOURG

Luxembourg Consulate General, 200 East 42nd St., New York, N.Y. 10017, 212-687-3166.

MALAYSIA

Federal Industrial Development Authority of Malaysia, North American Office, 845 Third Ave., 13th Floor, New York, N.Y. 10022, 212-421-7664.

Embassy of Malaysia, Attention: Counselor, 2401 Massachusetts Ave., N.W., Washington, D.C. 20008, 202-234-7600.

Honorary Consul General of Malaysia, 311 California St., San Francisco, Calif. 94104, 415-421-6570.

Honorary Consul of Malaysia, Room 730, Security Bldg., 234 East Colorado Blvd., Pasadena, Calif. 91101, 213-795-9797.

MALI

Embassy of Mali, 2130 R St., N.W., Washington, D.C. 20008, 202-332-2249.

MARTINIQUE, GUADELOUPE & FRENCH GUIANA

French Commercial Counselor in Washington, Embassy of France, 1100 Connecticut Ave., N.W., Suite 620, Washington, D.C. 20036, 202-223-6710.

MOROCCO

Embassy of Morocco, Attention: Commercial Counselor, Economic Section, 1601 21st St., N.W., Washington, D.C. 20009, 202-462-7979.

Moroccan Consulate General, 597 Fifth Ave., New York, N.Y. 10020, 212-758-2625.

THE NETHERLANDS

Industrial Commissioner for the Netherlands in the U.S., 1 Rockefeller Plaza, 11th Floor, New York, N.Y. 10020, 212-246-1429.

NETHERLANDS ANTILLES

Netherlands Antilles Economic Mission, 866 United Nations Plaza, New York, N.Y. 10017, 212-421-3360.

NEW ZEALAND

Office of the Minister Commercial, New Zealand Embassy, 1145 19th St., N.W., Washington, D.C. 20036, 202-338-8820.

New Zealand Government Trade Commissioner, 630 Fifth Ave., Suite 530, New York, N.Y. 10020, 212-586-0060.

New Zealand Government Trade Commissioner, 153 Kearny St., San Francisco, Calif. 94108, 415-982-6780.

New Zealand Government Trade Commissioner, 510 West Sixth St., Los Angeles, Calif. 90014, 213-624-1491.

NICARAGUA

Embassy of Nicaragua, Commercial Section, 1627 New Hampshire Ave., N.W., Washington, D.C. 20009, 202-332-1643.

NIGERIA

Consulate General of Nigeria, Attention: Nigerian Commercial Officer, 575 Lexington Ave., New York, N.Y. 10022, 212-752-1670.

Embassy of Nigeria, Office of Economic Affairs, 1333 16th St., N.W., Washington, D.C. 20036, 202-234-4800.

NORWAY

Embassy of Norway, Attention: Commercial Attache, 3401 Massachusetts Ave., N.W., Washington, D.C. 20007, 202-333-6000.

PAKISTAN

Consulate General of Pakistan, Pakistan House, 12 East 65th St., New York, N.Y. 10021, 212-TR-9-5800.

PANAMA

Embassy of Panama, Attention: Commercial Counselor, 2862 McGill Terrace, Washington, D.C. 20008, 202-483-1407.

Panama Government Investment Development Center, 405 Park Ave., New York, N.Y. 10022, 212-371-4343.

PHILIPPINES

Embassy of the Philippines, Attention: Commercial Attache, 1617 Massachusetts Ave., N.W., Washington, D.C. 20036, 202-265-2043 or 483-1414, Ext. 44.

Office of the Commercial Attache in New York, Embassy of the Philippines, 17 Battery Pl., Room 309, New York, N.Y. 10004, 212-269-0840.

Office of the Foreign Trade Promotion Representative, Philippine Consulate General, 6 North Michigan Ave., Suite 907, Chicago, Ill. 60602, 312-332-6458 or 236-3676.

Office of the Foreign Trade Promotion Representative, Philippine Consulate General, 2433 Pali Highway, Honolulu, Hawaii 96817, 808-595-6316.

Office of the Foreign Trade Promotion Representative, Philippine Consulate General, Los Angeles Home Furnishings Mart, Space 371, 1933 South Broadway, Los Angeles, Calif. 90007, 212-747-1158 or 747-1279.

Office of the Foreign Trade Promotion Representative, Philippine Consulate General, L-275 World Trade Center, Ferry Bldg., San Francisco, Calif. 94111, 415-982-2354.

Office of the Commercial Attache, Philippine Consulate General, Suite 1440-43, International Trade Mart, No. 2 Canal St., New Orleans, La. 70130, 504-523-0520.

Office of the Foreign Trade Promotion Representative, Philippine Consulate General, 835 Central Bldg., Third & Columbia Sts., Seattle, Wash. 98104, 206-MU-2-8544.

PORTUGAL

Portuguese Trade Office, 570 Fifth Ave., New York, N.Y. 10036, 212-581-2450.

ROMANIA

Embassy of the Socialist Republic of Romania, Office of the Economic Counselor, 95 Madison Ave., New York, N.Y. 10016, 212-532-4077.

Romanian Foreign Trade Promotion Office, 100 W. Monroe St., Room 2010, Chicago, Ill. 60603, 312-782-4463.

SINGAPORE

Singapore Economic Development Board, 500 North Michigan Ave., Suite 342, Chicago, Ill. 60611, 312-644-3730.

Singapore Economic Development Board, 745 Fifth Ave., Suite 1509, New York, N.Y. 10022, 212-421-2203.

Singapore Economic Development Board, 44 Montgomery St., Suite 2856, San Francisco, Calif. 94104, 415-391-0756.

SPAIN

Commercial Office of Spain, 2558 Massachusetts Ave., N.W., Washington, D.C. 20008, 202-265-8600.

Commercial Office of Spain, Chrysler Bldg., 54th Floor, 405 Lexington Ave., New York, N.Y. 10017, 212-661-4959.

Commercial Office of Spain, 55 East Washington St., Chicago, Ill. 60602, 312-782-7799.

Commercial Office of Spain, Flood Bldg., Suite 850, 870 Market St., San Francisco, Calif. 94102, 415-397-1397.

Commercial Office of Spain, 1840 International Trade Mart, New Orleans, La. 70130, 504-524-1401.

SRI LANKA (CEYLON)

Embassy of Sri Lanka (Ceylon), 2148 Wyoming Ave., N.W., Washington, D.C. 20008, 202-HU-3-4025.

SURINAM

Consulate General of the Netherlands, One Rockefeller Plaza, 11th Floor, New York, N.Y. 10020, 212-246-1436.

SWAZILAND

Embassy of the Kingdom of Swaziland, 441 Van Ness Centre, 4301 Connecticut Ave., N.W., Washington, D.C. 20008, 202-362-6683.

SWEDEN

Swedish Industrial Development Corp., 63 East 64th St., New York, N.Y. 10021, 212-628-0320.

TAIWAN

Chinese Investment & Trade Office, 515 Madison Ave., New York, N.Y. 10022, 212-752-2340.

TANZANIA

Embassy of Tanzania, 2010 Massachusetts Ave., N.W., Washington, D.C. 20036, 202-872-1005.

THAILAND

Office of the Economic and Financial Counselor, Royal Thai Embassy, 2300 Kalorama Rd., N.W., Washington, D.C. 20008, 202-332-2539.

Office of the Commercial Counselor, Royal Thai Embassy, 20 East 82nd St., New York, N.Y. 10028, 212-628-7900.

TRINIDAD & TOBAGO

Trinidad & Tobago Industrial Development Corp., 400 Madison Ave., Suite 712-714, New York, N.Y. 10017, 212-PL-5-9360.

TUNISIA

Embassy of Tunisia, 2408 Massachusetts Ave., N.W., Washington, D.C. 20008, 202-AD-4-6644.

TURKEY

Turkish Embassy, Office of the Commercial Counselor, 2523 Massachusetts Ave., N.W., Washington, D.C. 20008, 202-483-6366.

Turkish Embassy, Office of the Commercial Counselor, Room 543, Empire State Bldg., 350 Fifth Ave., New York, N.Y. 10001, 212-564-4880.

UGANDA

Embassy of Uganda, 5905 16th St., N.W., Washington, D.C. 20011, 202-726-7100.

Permanent Mission of Uganda to the United Nations, Attention: Commercial Section, 801 Second Ave., New York, N.Y. 10017, 212-689-3780.

URUGUAY

Embassy of Uruguay, Commercial Section, 1918 F. St., N.W., Washington, D.C. 20006, 202-628-1336.

YUGOSLAVIA

Embassy of Yugoslavia, 2410 California St., N.W., Washington, D.C. 20008, 202-462-6566.

Yugoslav Consulate General, Attention: Economic Counselor, 488 Madison Ave., New York, N.Y. 10022, 212-838-2300.

Yugoslav Consulate General, 188 W. Randolph St., Suite 3000, Chicago, Ill. 60601, 312-332-0169.

Yugoslav Consulate General, 625 Stanwix St., Pittsburgh, Pa. 15222, 412-471-6191.

Yugoslav Consulate General, 1919 Sacramento St., San Francisco, Calif. 94109, 415-776-4941.

Yugoslav Federal Chamber of Economy Trade Office, 1900 Avenue of the Stars, Suite 758, Los Angeles, Calif. 90067, 213-553-2648.

Federal Economic Chamber of Yugoslavia, Mid-West Trade Office, 15 South Fifth St., Suite 1252, Chamber of Commerce Bldg., Minneapolis, Minn. 55402, 612-332-3961.

Yugoslav Consulate General, 2310 Terminal Tower, Cleveland, O. 44113, 216-621-2093.

ZAIRE

Embassy of the Republic of Zaire, 1800 New Hampshire Ave., N.W., Washington, D.C. 20009, 202-234-7690.

MULTINATIONAL CORPORATIONS

International Finance Corp., 1818 H St., N.W., Washington, D.C. 20433, 202-EX-3-6360.

International Finance Corp., 120 Broadway, New York, N.Y. 10005, 212-964-6100.

Overseas Private Investment Corp., 1129 20th St., N.W., Washington, D.C. 20527, 202-632-1854.

UNIDO Schedules Two More Meetings For Latin America

In addition to the two industrial promotion meetings announced in the September 4 issue of *Commerce Today*, the United Nations Industrial Development Organization (UNIDO) has scheduled two more meetings in Latin America.

A program to promote contractual relationships between Salvadorian industrialists and foreign enterprises is scheduled at the Fifth International Fair of El Salvador in San Salvador Nov. 3-20. Particular emphasis on companies not planning exhibits at the Fair is scheduled on Industry Day, Nov. 10.

A Symposium on the Development of the Plastics Industry in Latin America will be held at Bogota from Nov. 20-Dec. 1. The Symposium is being organized in cooperation with the Government of Colombia, the Colombian Plastics Assn. and the Latin American Plastics Institute.

The Salvadoran program is designed to permit joint exploration of industrial projects, including confidential person-to-person discussions, and to display Latin American industrial products for which export markets are sought. The Colombia Symposium is to assist the region's plastics industry to achieve an orderly, efficient and rapid development.

Further details and registration forms for both meetings are available from Robert G. Cox, UNIDO Liaison Office, United Nations, New York, N.Y. 10017.

Power Generating Station To Be Constructed In Macao

Portugal plans to construct a steam-electrical power generating station in Macao under a turnkey contract. A bid call has been issued for work involving site preparation, construction of buildings, and supply and installation of equipment for a power generating station equipped with two steam-generator-turbine-alternator main transformer units, each for a rated power of 20,000 kilowatts. Bid deadline is Oct. 30.

Additional information is available from Conselho Superior de Fomento Ultramarino, Ministerio do Ultramar, Avenida da Ilha da Madeira (Restelo), Lisbon, Portugal; or Servicos de Planeamento e Integracao Economica, Macao. Copies of the tender documents (in English) are available from either address for US$18.35 each. One set may be reviewed in Room 2116 of the Construction, Water Resources & Engineering Division, U.S. Dept. of Commerce, Washington, D.C. 20230, (202-967-3602).

Papua New Guinea Invites Bids On Carrier Equipment

The Superintendent, Supply and Transport Branch, Department of Posts and Telegraphs, P.O. Box 6352, Boroko, Papua New Guinea has issued Tender No. A 2243 for the supply, delivery, installation, and commissioning of narrow band cable carrier equipment. Bid deadline 1:30 pm October 17.

The initial requirement is to expand two junction routes at present working on audio loaded cable. The routes are Banz-Minj and Boroko (Port Moresby)-Mount Lawes. The former will require an initial circuit capacity of 24 circuits with an ultimate capacity of 60 circuits, the latter will require an initial capacity of 60 circuits with an ultimate capacity of 120 circuits. Copies of tender announcement and specifications are available from the above address or from Messrs. Preece, Cardew and Rider, Consulting Engineers, Paston House, 165/167 Preston Rd., Brighton, BN1 6AF United Kingdom.

Portugal Asks Prequalification For Bidding On Port Project

The Sines Area Cabinet has announced that firms may submit applications for prequalification for bidding for construction (first phase) of port facilities for the Sines Project. Foreign companies may apply as individual entities or may join together with Portuguese firms. For individual submissions, the foreign company must stipulate the extent to which it will employ Portuguese technical personnel.

Of the firms found qualified, a maximum of six will be invited to bid on the project itself.

Copies of the terms and conditions for prequalification (in Portuguese) are available for 250 escudos (approximately US$9.25) each from: Gabinete da Area de Sines, Direcoao de Servicos da Actividade Industrial, Rua da Artilharia Um, No. 33 - 3 Andar, Lisboa. One copy with English translations of key sections may be viewed in Room 2116, U.S. Dept. of Commerce, Washington, D.C. 20230, (202-967-3602).

Foreign Trade Opportunities

These trade opportunities are based on reports received from the U.S. Foreign Service by the Trade Opportunities Division, BIC-831, and units of the Bureau of Domestic Commerce (BDC), U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1967 Census of Manufacturers, used extensively by Government and industry.

U. S. firms should be aware that the listing in Commerce Today *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Deparment of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only firms or individuals with good reputations. However, the Department cannot be responsible for any trade relations.

The mark (•) indicates that this trade opportunity is a request for bids by a foreign government agency. A (★) at the end means that additional information may be borrowed by U.S. firms from the individual division of BDC. To avoid delays, requests for loan material should specify the country, commodity and foreign government agency.

WTD indicates that a World Trade Directory Report containing financial and business background information on the foreign firm is available for $2 from the U.S. Department of Commerce, BIC-976, Washington, D.C. 20230.

Direct Sales

Specific foreign firms have expressed interest in direct purchases of the products below. See also the "Agencies" listing.

Fruits, tree nuts

01790—LIBYA—Fresh bananas; 100,000-200,000 tons per yr. Fergiani Smeda (dist., agent, retailer), New Suk Attalat, Vegetable Section #41, Tripoli. WTD in prep.

Broad woven fabric mills, cotton

22110—CANADA—Cotton canvas duck, weight 10 oz., 12 oz., 15 oz. (approx. weight before treatment); width 48" or over preferred; tarpaulin grade; waterproofed and dyed; brown; 25,000 to 40,000 yds. per order. Inland Plastics Ltd. (mfg.), P.O. Box 2199, Drumheller, Alberta. WTD in prep.

Logging camps, logging contractors

24110—THAILAND—Lignum Vitae timber logs. Requests c.i.f. Bangkok prices, literature. The Bangkok Dock Co. (1957) Ltd. (boat building & repairing), 1668 New Rd., Yannawa, Bangkok 12. WTD in prep.

Agricultural chemicals

•28700—INDONESIA—Ammonium sulfate (Z.A.), minimum 21% N, 18,200 metric tons; rock (natural) phosphate, minimum 24% P_2O_5, finely ground quality, 2,480 metric tons; muriate of potash (KCl), 60% K_2O, 13,000 metric tons; magnesium fertilizer (Kieserite), or similar, 18-26% MgO, 5,100 metric tons (based on 26% MgO) Tender No. 2112/A.3/Y/6/72. Bid deadline 10 a.m. October 19. Delivery schedule as follows: Ammonium sulfate 6,400 tons for arrival January 1973, 11,800 tons June 1973; rock phosphate 2,380 tons for June 1973; muriate of potash—4,500 tons arrival January 1973, 8,500 tons June 1973; magnesium sulphate 1,700 tons for arrival January 1973; 3,500 tons June 1973. Purchase to be funded by IDA credit. Bid tender documents and specifications being sent to Commerce, when received they will be available from the Chemicals and Rubber Division, BDC-710, U.S. Department of Commerce, Washington, D.C. 20230, ★(202-967-3468). In the meantime, bid tender documents and specifications are available from Liaison Office, D.N. Perkebaunan Vi, DJL, Garut No. 15 Djakarta, upon payment of Rupiah 5,000. Tenders for this Government State Enterprise purchase are to be addressed to B.C.U.—P.N. Perkebunan, DJL, Djenderal S., Parman No. 73 (SLIPI), Djakarta.

•28700 — PARAGUAY — Diammonium phosphate (18-46-0) 75 metric tons, in 50 kilogram bags; muriate of potash (0-0-60) 30 metric tons, in 50 kilogram bags; urea (45-0-0) 20 metric tons, in 50 kilogram bags; all bagged materials will include 1% of additional empty bags; systemic phosphate insecticide, 500 liters, in 1 liter containers; organic phosphate insecticide, contact and ingestion, 1,500 liters in 1 liter containers; jute bags, 90 x 50 centimeters, 5000; agricultural lime, 50 metric tons, in 50 kilogram bags. Tender No. PIDAP-BID 7/72. Bid deadline 8:30 a.m., October 5. Bid tender documents and specifications are not available from the Chemicals and Rubber Division, U.S. Dept. of Commerce, Washington, D.C. Free specifications are unavailable. Tenders and requests for tender documents and specifications should be submitted to the Direccion Administrativa, Ministerio de Agricultura Y Ganaderia, Calle Presidente Franco No. 479, Asuncion, Paraguay. Cost of bid papers, in Asuncion, Guaranies 1,000 (U.S. $7.94); request of bid papers from abroad, Guaranies 1,500 (U.S. $11.90).

Plastic products

30796 — NIGERIA — Plumbing fixtures and parts, plastics. Mr. Okerentugba G. Thompson (importer, dist.), O.G.T. Group of Companies, 44 Balogun St., Lagos. WTD in prep.

Boot, shoe cut stock, findings

31310 — NIGERIA — Innersoles, heels, lifts, counters, and platform—cut stock and findings for shoe making trade. Mr. Okerentugba G. Thompson, Chairman/mng. dir. (importer, dist.), O.G.T. Group of Companies, 44 Balogun St., Lagos. WTD in prep.

Pottery, related products

32610 — NIGERIA — Plumbing fixtures and accessories, vitreous china, earthenware. Mr. Okerentugba G. Thompson, Chairman/mng. dir. (importer, dist.), O.G.T. Group of Companies, 44 Balogun St., Lagos. WTD in prep.

Steel mill products

33120—INDIA—Approximately 3,399 ft. of steel flats conforming to IS 226 or DN 17100-St. 42 and 128 steel channels weighing approx. 32.28 kgs., conforming to IS 226. Kirloskar Pneumatic Co. Ltd. (mfr.), Hadapsar Industrial Estate, Poona 13, Maharashtra. Attn: Lt. Col. F. E. F. Prince. WTD in prep.

33123 — INDIA — 396 steel sheets conforming to IS-226 or DN-17100-St 42. Kirloskar Pneumatic Co. Ltd. (mfr.), Hadapsar Industrial Estate, Poona 13, Maharashtra. Attn: Lt. Col. F. E. F. Prince, purchase mgr. WTD in prep.

33124—INDIA—200 tons of steel plates in various sizes conforming to IS-226 or DN 17100-St 42. Kirloskar Pneumatic Co. Ltd. (mfr.), Hadapsar Industrial Estate, Poona 13, Maharashtra. Attn: Lt. Col. F. E. F. Prince, purchase mgr. WTD in prep.

33126—ARGENTINA—Tubing for hypodermic needles. Requests descriptive literature, price quotations. Taranto & Cia., S.R.L. (importer, dist., mfr.), Callao 702, Buenos Aires. WTD in prep.

Primary smelting, refining of nonferrous metals

•33300—THAILAND—Aluminum Ingot, EC grade, 215 tons, tender ADB-MEA-008, bid deadline October 25, Purchase and Stores Department, Metropolitan Electricity Authority, 121 Chakpetch St., Bangkok 2. Specifications details available on a short term basis to firms domiciled in the U.S. from Metals and Minerals Division, BDC-782, U.S. Dept. of Commerce, Washington, D.C. 20230, ★(202-967-2181).

Rolling, drawing, extruding of nonferrous metals

•33500—INDIA—Nickel Silver Strips, 60 m. tons, Tender No. P/202/45/054-

065/2.6.72/PL, bid deadline October 31. Documents available from India Supply House, 2536 Massachusetts Ave., NW., Washington, D.C. 20008.

●33500 — THAILAND — Purchases and stores Department, Metropolitan Electricity Authority, 121 Chakpetch St., Bangkok, Thailand invites bids for Copper Cable, 15 kv and 600 volt class. Tender No. MEA-PAS-288. Bid deadline October 17. Copies of specifications available from Metals and Minerals Division/ Copper Program, BDC-784, U.S. Dept. of Commerce, Washington, D.C. 20230, ★(202-967-2438).

Cutlery, hand tools, general hardware

34294 — NIGERIA — Builders' hardware. Mr. Okerentugba G. Thompson, Chairman/mng. dir. (importer, dist.), O.G.T. Group of Companies, 44 Balogun St., Lagos. WTD in prep.

Heating apparatus, plumbing fixtures

34310 — NIGERIA — Plumbing fixtures; metal, enameled iron. Mr. Okerentugba G. Thompson, Chairman/mng. dir. (importer, dist.), O.G.T. Group of Companies, 44 Balogun St., Lagos. WTD in prep.

34320 — NIGERIA — Plumbing fixtures, fittings and trim, brass goods. Mr. Okerentugba G. Thompson, Chairman/mng. dir. (importer, dist.), O.G.T. Group of Companies, 44 Balogun St., Lagos. WTD in prep.

34336—ITALY—Municipal, industrial incinerators. Direct purchase & agency. Correspondence requested in French, German. Termotecnica Meridionale S.r.l. (special trade contractor), Via Indipendenza 10, 70051 Barletta (Bari). WTD 8/72.

Fabricated structural metal products

34434—INDIA—2,000 gas cylinders for filling oxygen. Product should conform to Indian Standard Specifications. The Malwa Vanaspati & Chemical Co. Ltd., Attn: N. J. Hemnani, Pres. (mfr.), Mohatta Nagar, Indore 3, Madhya Pradesh. WTD 8/72.

Fabricated metal products

34943—NIGERIA—Plumbing and heating valves, except plumbers brass goods. Mr. Okerentugba G. Thompson, Chairman/mng. dir. (importer, dist.), O.G.T. Group of Companies, 44 Balogun St., Lagos. WTD in prep.

Engines, turbines

●35100—LIBYA—Supply and installation of Gas Turbine Power Station. Specifications and tender documents obtainable from the Electricity Corp., BIR BILAL St., Benghazi, Libyan Arab Republic upon payment of $154.00 (U.S.). Capacity should be 2 x 20 megawatt. Bid deadline November 1.

Construction, mining, materials handling machinery, equipment

●35300 — ARGENTINA — Construction, supply, and installation of necessary equipment, and start up of an iron ore crushing plant and an iron ore preconcentration plant handling two million tons of ore a year. Tender No. 201-1 A/72; bid deadline Oct. 13. Specifications available for 1500 Arg. pesos from Hierro Patagonico de Sierra Grande S.A.M., Billinghurst 2447, Piso 2° Buenos Aires.

35310—ISRAEL—Road construction machinery to include: finishers and spreaders; scrapers and scraper bowls including dig, carrying and hauling; motor graders and light maintainers; compactors and self-propelled rollers; excavating and earth-moving machinery; off-highway trucks and truck-tractors. Gaza Contracting Co. Ltd. (importer, contracting/servicing), P.O. Box 1, Gaza—Via Israel. WTD in prep.

Metalworking machinery

35441 — ARGENTINA — Machinery, equipment for making stainless steel hypodermic needles for disposable syringes. Requests descriptive literature, price quotations. Taranto & Cia., SRL (importer, dist., mfr.), Callao 702, Buenos Aires. WTD in prep.

Special industry machinery

●35500 — ALGERIA — Study and construction of three oilseed processing and storage facilities, 1500 m.t. capacity each. Tender No. AO.CC. 50/72. Bid deadline Nov. 1. Copy of specifications in French available on a short-term loan basis from General Industries Div., BDC-772, U.S. Dept. of Commerce, Wash., D.C. 20230. ★(202-967-4317).

●35500 — EGYPT — Design, supply and supervision of erection, start up and taking over tests of equipment for the development, expansion and modernization of rice straw pulp mill at Societe Nationale du Papier. Project aims at increasing existing capacity of straw pulp mill to 100 tons per twenty four hours per day of straw. Tender No. 6/72; bid deadline Dec. 2. The General Organization for Industrialization, 6 Khalil Agha St., Garden City, Cairo. Tender documents available from above authority for L.E. 20.00 ($46) plus airmail postage. A copy of the specifications is available on a short term loan basis to firms domiciled in the U.S. from General Industries Div., BDC-772, U.S. Dept. of Commerce, Washington, D.C. 20230, ★(202-967-5593).

●35500 — EGYPT — Design, supply and supervision of erection, start up and taking over tests of machinery and equipment to be used to install a complete plant for manufacturing hard rubber containers for lead acid batteries with a production capacity of 250,000 units per year. Tender No. 8/72; bid deadline Dec. 2. The General Organization for Industrialization 6, Khalil Agha St., Garden City, Cairo. Tender Documents available from above authority for L.E. 15.00 ($34.50) plus airmail postage. A copy of the tender documents are available on a short term loan basis to firms domiciled in the U.S. from General Industries Div., BDC 772, U.S. Department of Commerce, Washington, D.C. 20230, ★(202-967-5593).

●35500 —GUATEMALA— Equipment to manufacture five tons of lead oxide daily (one eight-hour shift) for use in manufacture of storage batteries and paints. Interested firms should contact Tomas Orts, Fabrica De Acumuladores Iberia, 4A, Calle 18-59, zone 6. WTD in prep.

●35500 — IRAN — Bottle washing and drying machine. Bid deadline Oct. 10. Tender No. 1311/51. Output 2,000 bottles per hour. Specifications available on short-term loan basis from General Industries Div., BDC-772, U.S. Dept. of Commerce, Washington, D.C. 20230, ★(202-967-4317).

●35500—LIBYA—Installation and supply of an automotive, truck, and tractor tire factory. Bid deadline Nov. 1. The Libyan National Organization for Industrialization, Tripoli. Copy of specifications available on a short term loan basis to firms domiciled in the U.S. from General Industries Div., BDC-772, U.S. Dept. of Commerce, Washington, D.C. 20230. ★(202-967-5593).

●35500—NIGERIA—Fire alarm systems for industrial, commercial, and institutional buildings. Firm wishes to conclude tentative agency agreement prior to Communications and Electronic Trade Fair scheduled Federal Palace Hotel, Lagos, October 16-21. Ayodeji Amosu, Mng. Dir., Sentrycom Alarms (Nigeria) Ltd., 156 Herbert Macauley St., Ebute-Metta, Lagos. WTD 8/70.

●35500 — VIET-NAM — Machinery and equipment for a cigarette packing plant with standard accessories and spare parts. Estimated production is 450 packs per minute. Tender No. 11/72/SKT/IDB; bid deadline Sept. 30. Industrial Development Bank of Viet-Nam (IDB), 40 Nguyen Hue Blvd., P.O. Box 336, Saigon. Specifications available on a short term loan basis to firms domiciled in the U.S. from General Industries Division, BDC-772, U.S. Dept. of Commerce, Washington, D.C. 20230. ★(202-967-5593).

35511—CZECHOSLOVAKIA—Dry milk processing machinery daily capacity 400,000 liters of milk (20,000 liters of milk per hr.); machinery shall be used for drying skimmed, whole milk. Mliekarensky priemysel, odborove riaditelstvo (mfr.), Attn: Anton Oliva, Technical Mgr., Mileticiva 11/a Bratislava.

35513 — PARAGUAY — Complete equipment, machinery for processing, canning, packing concentrated fruit juice (grape fruit, orange, lemon, pineapple). Est. daily production of plant 200 metric tons. Azucarera Friedmann S.A. (mfr.), Estacion Villarrica. WTD 8/72.

35513 — PARAGUAY — Complete sugar cane plant, 20,000 to 30,000 tons annual production. Angel Arias, Casilla Postal 1421, Asuncion. WTD in prep.

●35520 — EGYPT — Design, supply & erect complete polyester staple plant to produce 18,000 ton/year. Tender No. 1/ 72. Bid deadline Nov. 27. Bid should be made to the General Organization for Industrialization, 6 Khalil Agah St., Cairo. Tender documents available on a loan basis from General Industries Div., U.S. Department of Commerce, Washington, D.C. 20230, ★(202-967-5589).

35520—ISRAEL—Complete textile-printing plant to include related machinery, parts, attachments; possibly second-hand, good condition; also silk-screen (nylon-netting) 1.50 meter or under in width for fabric-printing. Requests earliest delivery. Textile Printing - Eng. P. Birenbaum (importer, servicing - printing of textiles), Industrial Center, Or-Yehuda Alef (Post Or-Yehuda). WTD in prep.

35540 — INDIA — Rebuilt paper making machinery for cigarette, allied specialty tissue paper manufacturing project. Plant capacity 8 (eight) tons per day; three shifts of eight hrs. Details of plant requirements available from Trade Opportunities Staff, BIC-831, Rm. 4813, U.S. Dept. of Commerce, Washington, D.C. 20230. Quote prices c.i.f. Madras. Atherton Engineering Co. (Private) Ltd. (mfr.), Post Box 2388, 21 Rajendra Nath Mookerjee Rd., Calcutta-1.

35540 — SINGAPORE — Machinery for printing, cutting coasters, beer mats, pa-

per napkins. Mr. I. W. Revell, gen. mgr., Somerville (S) Pte. Ltd. (importer, dist., agent), 38 Kramat Rd., Singapore 9. WTD in prep.

35593 — SOUTH AFRICA — Shredding, cleaning machinery for reclaiming material from high density polyethylene milk bottles, containers. Reclaimed material for use as raw material for non-critical thick wall products such as piping, etc. Drums & Containers (Pty.) Ltd. (mfr.), Van der Stel St., Beacon Industrial Township (P.O. Box 50, Tiervlei), Parow, Cape Province. WTD 8/72.

35595—IRAN—Ophthalmic lens grinding equipment with capacity to produce 200,000 pairs of lenses per yr. on single shift basis, spherical and cylindrical lenses, clear and colored, plus and minus diopter numbers. Interested suppliers are requested to send three copies of their catalogues, price lists to: Assadollah Nasirpour, P.O. Box 258, Khorramshahr. WTD in prep.

35595—THAILAND—Used machinery to produce 12" to 40" I.D. concrete pipe. Requests c.i.f. Bangkok prices, brochures, literature. Kuy Yoo Seng Construction Factory R.O.P. (dist., retailer), 3 Group 9, Petchkasem Rd., Greater Bangkok. WTD 5/72.

35595—THAILAND—Machinery to produce tooth-picks. Requests c.i.f. Bangkok prices, catalogs, brochures. Ngow Jung Meng Co. (dist.), 705-6 Pho-klang Rd., Amphur Muang, Nakorn Rajsrima. WTD in prep.

General industrial machinery

●35600—MALAYSIA — Supply, delivery and erection in districts of Durian Tunggal and Alor Gajah (State of Malacca): (a) **Raw Water Intake Pumping Station** —three fixed speed vertical spindle raw water pumpsets and all ancillary and auxiliary equipment; (b) **Treatment Works**—two fixed speed horizontal split casing clear water pumpsets including all ancillary and auxiliary equipment; and (c) **Booster Station** — three fixed speed horizontal split casing pumpsets and all ancillary and auxiliary equipment. Tender No. not specified, bid deadline Nov. 14, 1972. Ketua Jurutera Kerja, Lembaga Ayer, Melaka, Bangunan Lembaga Ayer Melaka, Jalan Bukit Palah, Melaka. Tender documents (3 copies) available upon payment of M$100.00 (not refundable) in form of check made out to Ketua Jurutera Kerja, Lembaga Ayer Melaka and crossed "not negotiable." One copy of tender documents available on a short term loan basis to firms domiciled in the U.S. from General Industries Div., BDC-772, U.S. Dept. of Commerce, Washington, D.C. 20230, ★(202-967-5593).

35615 — GERMANY — Spraying equipment for automotive maintenance for spraying cleaning fluid and protective varnish on chassis; spraying equipment for construction industry, designed for spraying liquid plastic material on walls. Direct purchase & agency. Willy Hallbauer, K.G. (importer, dist., mfr.), 6806 Viernheim, Industriestr. 18. WTD 8/72.

35642—ITALY—Air purification equipment. Direct purchase & agency. Correspondence requested in French, German. Termotecnica Meridionale S.r.l. (special trade contractor), Via Indipendenza 10, 70051 Barletta (Bari). WTD 8/72.

Office, computing, accounting machines

35731 — NORWAY — Data logging systems, multi channel, for measuring temperature, pressure, etc., portable, capacity 50-100 channels, digital clock, paper tape punch or magnetic recording on tape cartridges. Gallus-Plesner A/S (importer, dist., mfr.), Rosenkrantzgaten 1, Oslo 1. WTD in prep.

Special Action

Each of the following trade notices is deemed to rate the special attention of American manufacturers and suppliers by the U.S. Commercial Officers overseas.

26410 — SOUTH AFRICA — Label papers; bleached coated high yield packaging boards; glassines and grease proofs. Hammaren Trading Co. (Pty.) Ltd., Attn: R.F.D. Greenslade (importer, dist., agent), P.O. Box 2652, Johannesburg. WTD 8/72.

33120—HONG KONG—Prime quality stainless steel strips in coils. Quality: AISI 304, 18/8; soft temper and deep drawing; finish: 2B; slit edge; gauges: from 20 SWG to 24 SWG inclusive, also 13 and 14 SWG; width: minimum 48"; packing: strips are interleaved with tissue paper to avoid scratching. Inner diameter of core 24" or 20"; weight of each coil about 1 ton and each coil packed in wooden case/crate. Kin Hip Metal & Plastic Fty. Ltd. (dist., mfr., exporter), 9 Hung To Road, Kwun Tong, Kowloon, P.O. Box 9414, Kwun Tong, Hong Kong. Cable: KIMPLASTIC. WTD in prep.

36620 — SWITZERLAND — Full range of advanced industrial, commercial, residential security, safety, surveillance equipment and systems, incl. guard personnel and police equipment and supplies, training equipment for guards and police, communication systems, television surveillance systems, alarm and signal systems, shop lifting and pilferage protection systems; electronic, infrared and other sophisticated detection or surveillance systems; identifications systems; optical security systems; airport surveillance systems. AEGIS Corp., for the Protection of Commerce & Industry, Attn: Gerald L. Berkin, Dir. of Operations (importer, agent, security consultants), 8 rue Bovy-Lysberg, P.O. Box 4, 1211 Geneva 11. WTD 7/71.

Service industry machines

35851 — BAHAMAS — Commercial ice cube making machinery capable of producing 3,000 to 5,000 cubes per day. Bethell Robertson Ltd., Attn: Bert Pritchard (dist., retailer), P.O. Box ES 6340, Nassau. WTD 8/72.

35851 — JAMAICA — Diesel or Gas powered refrigerated trailer vans. Specifications: 35 ft. length, 220 volt, 3-phase electrical system; c.i.f. Kingston not over U.S.$4,500. Six vans required. Direct purchase & exclusive agency. Gloucester Trading Co. (importer, retailer), 16 Chester Ave., Liguanea, Kingston 6. WTD in prep.

35891—SWITZERLAND—Electric, convection type commercial, institutional cooking, baking ovens, electric griddle plates, deep fat fryers, grills. Wok AG (importer, dist.), Laegernstr. 27, 8037 Zurich. WTD 8/72.

Electric transmission, distribution

●36100—EL SALVADOR—Supply 2 ea. 3 phase Transformers, 150 kw. Tender No. IM 6/72, bid deadline Oct. 3. Specifications available for $6, from Administracion Nacional De Acueductos y Alcantarillados (ANDA), Seccion 209, Edificion Comercial Pacifice, 9A. Avenida Sur 214, San Salvador, El Salvador, C.A.

●36100—IRELAND—Supply and deliver 2 ea. 280 mva, 20/220 kv Transformers. Tender No. 2498/PS, bid deadline Oct. 16, Purchasing Officer, Electricity Supply Board, 27 Lower Fitzwilliam St., Dublin 2, Ireland. One copy of specifications available for reference only, not for loan, from the Power and Electrical Equipment Program, Room 2814A, Mail Code 774, Dept. of Commerce, Washington, D.C. 20230, ★(202-967-5652).

●36100 — TAIWAN — Supply 120 mva, three-phase, 161-66 kv transformer, 161 kv line terminal equipment and 69 kv line terminal equipment by Taiwan Power Co. Tender No. and bid deadline not available. World Bank-financed. Bidding documents available from Gibbs and Hill, Inc., 393 Seventh Ave., New York, N.Y. 10001.

36110—GERMANY—Potentiometers. Direct purchase & agency. Elektronik-Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

36112 — JAMAICA — Auto analyser for measuring blood cholesterol level. Quotation c.i.f. Kingston. Larry Wirth & Assoc., Attn: Larry Wirth (importer, hotel service), P.O. Box 111, Kingston 8. WTD in prep.

36134 — CANADA — Interiors for low voltage electrical fuse boxes. W. C. Pursley Ltd., Attn: R. W. Norrey (mfr.), 3151 Lenworth Dr., Mississauga, Ontario. WTD in prep.

Household appliances

36312—CANADA—Domestic gas stoves, ranges. Direct purchase & agency. Samuel Katzman (dist.), 90 Playfair Ave., Toronto, Ontario. WTD in prep.

36343—AUSTRIA—Small electric household appliances of all kinds; fans; rechargeable flashlights, etc. Hans Kremser (dist., agent, repairer), Schultergasse 3, A-1010 Vienna. WTD 8/72.

Electrical lighting, wiring

36430 — GERMANY — Plugs and plug-connectors. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

Communication equipment

●36600—GREECE—The Hellenic Telecommunications Organization S.A. (OTE) has issued Tender No. 6917 for the supply and installation of a radiogoniometry network. Bid deadline is Noon, October 30. Bid should offer four distress signal receiving stations operating on 500 Khz and 2182 Khz.

Copies of tender announcement and specifications are available from the Hellenic Telecommunications Organization, Sub Directorate of Tender, Room 24, 2d floor 6, Klissovis St., Athens or on a short-term loan basis to firms located in the U.S. from the Communications-Electronics Division, BDC-720, Room 1112, U.S. Dept. of Commerce, Washington, D.C. 20230, ★(202-967-4822).

●36600 — COLOMBIA — The Instituto Colombiano De Energia Electrica has issued Tender No. UPIB-A-No. 0026 for the supply and installation of a radio communications system for the subtransmission and distribution plan ICEL-BID. Bid deadline is 3 p.m. October 29. Copies of tender announcement and specifications are available only from the ICEL, Carrera 13 No. 27-00, Oficina 310, Bogota, Colombia for 1,200 Colombian Pesos for first copy and 600 Pesos for each additional copy ($1 = 22.10 pesos).

●36620—BRAZIL—The Centrais Eletricas De Sao Paulo (CESP) has issued tender no. 19/72 for the supply of telecommunications equipment. Bid deadline is 3 p.m., Dec. 14. Bid should offer radio and multiplex equipment, switching equipment, power equipment, towers, and teleprinting equipment. Copies of tender announcement and specifications are available only from the Centrais Eletricas De Sao Paulo, Av. Paulista 2064 3rd Andar, Sao Paulo, Brazil for CR 5,000 per copy ($1 = CR 5.965).

●36620—LIBYA—The Libyan Broadcasting Corp. has issued tender no. 1448 for the supply and installation of high power transmitters. Bid deadline is 10 a.m. Nov. 13. Bid should offer two (2) 250-300Kw transmitters, including power supply, building and all accessories. Copies of tender announcement and specifications are available only from the Libyan Broadcasting Corp., Ministry of Information Central Tender Board, Suliman El-Baruni, Tripoli upon payment of 50 Libyan Dinars ($154).

Electronic components, accessories

36730—GERMANY—Tubes and lamps. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

36740 — GERMANY — Semi-conductors, photo semi-conductors. Direct purchase & agency. Elektronik-Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

36740—SOUTH AFRICA — Transistors, diodes for radio, television sets; complete range. Requests prices c.i.f. Cape Town including 7½ percent commission. Direct purchase & agency. Mill Agents South Africa (Pty.) Ltd. (importer, agent), 122/130 Boston House, Strand St., P.O. Box 3161, Cape Town, Cape Province. WTD 10/71.

36741—GERMANY—Integrated circuits, microwave equipment. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

36742—GERMANY—Transistors. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

36743—GERMANY—Diodes. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

36790—GERMANY—Cooling bodies. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

36792—GERMANY—Condensers. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

36793 — GERMANY — Resistors. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, 1342 Postfach, 46 Dortmund. WTD 8/72.

36795—GERMANY—Delay-action relays, switches and relays. Direct purchase & agency. Elektronik Bauelemente GmbH (importer, agent), 15 Viktoriastrasse, Postfach 1342, 46 Dortmund. WTD 8/72.

Engineering, laboratory, scientific, research instruments

38112—GERMANY—Instruments, installations for non-destructive testing of materials, for measurement and analysis, for electrical measurement of non-electrical sizes. Helmut Fischer GmbH & Co. (dist., mfr., agent), P.O. Box 4, D-7032 Sindelfingen, Baden-Wuerttemberg. WTD 8/72.

Surgical, medical, dental instruments

38410—ARGENTINA—Cobalt 60 bomb, new or rebuilt. Requests descriptive literature, price quotations. Dr. Abel Zubizarreta (medical doctor). Arenales 970, 2° Piso, Buenos Aires. WTD in prep.

38421—NIGERIA—Surgical dressing, including adhesive plaster, gauze, cotton sponges, compresses and pads. Mr. Okerentugba G. Thompson, Chairman/Mng. Dir. (importer, dist.), O.G.T. Group of Companies, 44 Balogun St., Lagos. WTD in prep.

Photographic equipment

38611 — ISRAEL — Machine for photographic reproduction of silk screens (nylon netting) used for printing of fabrics/textiles; possibly second-hand, good condition. Textile Printing—Eng. P. Birenbaum (importer, servicing-printing of textiles), Industrial Center. Or-Yehuda Alef (Post Or-Yehuda). WTD in prep.

Mexico Registers Suppliers Of Tubular Steel Posts

The Federal Electricity Commission of Mexico has called for registration of suppliers of tubular steel posts. The tender, Concurso Internacional CI: 9/72, calls for: Part 1, 1,626 tubular steel posts, Type A-12-E, total length, 12,192 meters, resistance to tension of 3.600 KG/CM2. (MN-26-1); and Part 2, 929 tubular steel posts, Type A-13-E, total length of 13,716 meters, resistance to tension of 3.600 KG/CM2. (MN-26-2).

Foreign firms that wish to participate in the bidding should send a check for 350 pesos ($28) made payable to Comisio Federal de Electricidad. The check covers the cost of the specifications and registration. The check and the request for application forms and specifications should be sent to: Departmento de Compras, Oficina de Concursos Internacionales, Oficio No. AFB30 28288, Rodano No. 14, Mexico 5, D.F. Companies should make reference to Concurso Internacional No. CI:9/72 and indicate whether their interest is in Part 1, Part 2, or both.

The American Embassy in Mexico is sending a sample of the application forms and specifications to the Construction, Water Resources & Eng. Div., BDC-742, U.S. Dept. of Commerce, Washington, D C. 20230, ★(202-967-3602).

Algeria Seeks Consulting Firm For Phenolic Foam Panel Plant

The National Oil and Gas Corporation (SONATRACH) has issued invitations for bids for the **study, design, and start-up of a plant for the production of phenolic foam panel.** Interested bidders should propose the following: (1) study of plant, (2) supply of all equipment, (3) transportation of equipment from port to place of works, (4) design of civil engineering work and construction of buildings, (5) assemblage of equipment, (6) training of personnel, (7) technical assistance for the operation of the plant. The agency to be contacted is: Monsieur le Chef du Project Plastiques, 17, rue de la Liberté, Algiers, Algeria. The envelope should be marked: "A l'attention de Monsieur Ahmed Ghozali, President Directeur General," "Ne pas ouvrir—Confidentiel."

Bid deadline is October 15. A copy of the bid dossier in French is available for review in the office of the Construction, Water Resources and Engineering Division. R. 2119, U.S. Dept. of Commerce, Washington, D.C., 20230.

Greek Firm Seeks Hotel Furnishings And Equipment

A Greek firm is planning a beach resort on the island of Rhodes consisting of a 600-room hotel, bungalows with 200 beds, two swimming pools (one heated), saunas, restaurants, bars, night club, and conference facilities.

Samples and offers on the following equipment are requested: building and decorative materials; wall paper; floor and wall tiles; hydraulic and electrical fittings; air conditioning machinery and equipment; sanitary ware; furniture; kitchen and bar equipment and utensils; cutlery; catering machinery; laundry equipment and machinery; equipment and machinery for swimming pools, saunas, beach equipmnt; office, administration equipment. Interested U.S. firms should write: Colossos, Ltd., P.O. Box 105, Rhodos, Greece.

Koreans Seek To Furnish Hospital With U.S. Goods

Seoul National University Hospital has requested a U.S. Eximbank loan of nearly $10 million to cover imports of mechanical, electrical, and medical equipment needed to furnish a new $24 million hospital. Tenders for the commodities should be issued this fall. Hospital officials request that U.S. firms forward literature, catalogues, specs and quotes on the items needed. A limited number of copies of a Proposed Material List is available on a short-term loan basis from the Business, Photographic and Scientific Equipment Division, BDC-708, Room 1128, U.S. Department of Commerce, Washington, D.C., 20230, ★(202-967-2939.

Business consultations on the project are available from the China Medical Board, (Mr. Ede Nemeti) Rm. 3010, Graybar Bldg., 420 Lexington Ave., New York, N.Y., 10017. Interested U.S. firms may also contact Prof. Hong-Ki Kim, Supt., Seoul National Univ. Hosp., 28 Yonkon-dong, Chong-ro-ku, Seoul 110.

Agencies

Specific foreign firms have expressed interest in agency agreements for the products listed below. Exclusive agencies for these products are wanted only if specified.

Grain mill products

20423 — PARAGUAY — Canned, dry, semimoist dog food. Jose Teixido y Cia. (importer, dist.), Calle Humaita 309, Asuncion. WTD 8/72.

Bakery products

20522 — NETHERLANDS — Cookies, all kinds, especially for children. c.i.f. Rotterdam prices in kilograms. Exclusive agencies for western Europe. Purchase on own account. Wishes to deal exclusively with manufacturers. Belga B.V., Attn: Joh. Thijs, Mgr. (importer, dist./exporter, mfr.), 6 Leemstraat, Roosendaal (NB). WTD 8/72.

Confectionery

20715 — NETHERLANDS — Confectionery, especially penny goods for children. Quote Rotterdam c.i.f. prices in kilograms. Exclusive agencies for western Europe. Purchase on own account. Wishes to deal exclusively with manufacturers. Belga B.V., Attn: Joh. Thijs, Mgr. (importer, dist./exporter, mfr), 6 Leemstraat, Roosendaal, N.B. WTD 8/72.

Converted paper, paperboard products

26416 — SWITZERLAND — Wrapping, packing paper for pharmaceuticals, newly designed paper packages, specialties. Coplax AG (importer, agent), Kreuzstrasse 72, 8008 Zürich. WTD 8/72.

26472 — PARAGUAY — Regular typesingle ply table napkins. Jose Teixido y Cia. (importer, dist.), Calle Humaita 309, Asuncion. WTD 8/72.

Paperboard containers, boxes

26510 — SWITZERLAND — Folding paperboard boxes for pharmaceuticals, made to order items, specialties. Coplax AG (importer, agent), Kreuzstrasse 72, 8008 Zurich. WTD 8/72.

26542 — PARAGUAY — Liquid-tight and round nested food containers, including lids, tops; drinking cups, portion serving cups. Jose Teixido y Cia. (importer, dist.), Calle Humaito 309, Asuncion. WTD 8/72.

26543 — PARAGUAY — Stamped plates, dishes, spoons, similar products. Jose Teixido y Cia. (importer, dist.), Calle Humaita 309, Asuncion. WTD 8/72.

Greeting card manufacturing

27711 — PARAGUAY — Christmas, seasonal, other greeting cards. Jose Teixido y Cia. (importer dist.), Calle Humaita 309, Asuncion. WTD 8/72.

Synthetic materials

28211—THAILAND—Transparent plastic sheets "Mylar" or equal, presensitized red coating, for making tint negatives or positives for maps and drawings, size 36″ x 48″. Exclusive distributorship franchise required. Requests c.i.f. Bangkok prices, catalogs, brochures, samples. Bangkok Photo Supplies Ltd., Part. (importer, dist., retailer), 318 New Road, Opp. Capital Theater, Bangkok. WTD in prep.

28213—THAILAND—Vinyl sheets, fine grained white opaque and translucent, used for processing emulsions and for direct drawings, size 36″ x 48″ x 01″. Exclusive distributorship franchise required. Requests c.i.f. Bangkok prices, catalogs, brochures, samples. Bangkok Photo Supplies Ltd., Part. (importer, dist., retailer), 318 New Road, Opp. Capital Theater, Bangkok. WTD in prep.

Fabricated rubber products

30697 — SWITZERLAND — Bulbs for medicine droppers, syringes, sprays; pharmaceutical rubber packing specialties, novelties. Coplax AG (importer, agent), Kreuzstrasse 72, 8008 Zurich. WTD 8/72.

30697—THAILAND—Rubber nipples designed for baby feeding bottles. Requests c.i.f. Bangkok prices, catalogs, brochures. Kongsakdi Plastic Co., Ltd. (importer, dist.), 1739-41 Phaholyothin Rd., Bangkok. WTD in prep.

Plastic products

30790—FINLAND—Plastic horse shoes for harness racing horses. Bateman Associates Trade Center Ky., Attn: William R. Bateman, pres. (agent), Sampola A 2, 04310 Tuusula. WTD 2/72.

30798 — SINGAPORE — Baby's nursing bottles, nipples, pacifiers. Mr. Long Say Kok, Mng. Partner, Lee Teck & Co. (importer, dist., retailer), 167 Thomson Rd., Goldhill Shopping Center, Singapore 11. WTD 8/72.

30798 — SWITZERLAND — Plastic packing materials for pharmaceuticals, drugs; plastic caps, droppers, specialties, also made to order items. Coplax AG (importer, agent), Kreuzstrasse 72, 8008 Zürich. WTD 8/72.

Glass, glassware

32210—SWITZERLAND—Medicine bottles, jars, droppers, containers for pharmaceutical packing, other glass packing specialties including made to order items. Coplax AG (importer, agent), Kreuzstrasse 72, 8008 Zurich. WTD 8/72.

Cutlery, hand tools, general hardware

34233—NETHERLANDS—Tools, accessories, handling equipment for electronic assembly & maintenance, such as integrated circuits. Agency for Benelux area. C. A. Meijvogel N. V., Attn: W. M. C. Erhardt, mgr. (importer, dist.), 77 Coornhertstraat, or P.O. Box 156, Vlaardingen. WTD 8/72.

Heating apparatus, plumbing fixtures

34320 — AUSTRIA — Plumbing fixture fittings, trim of all kinds. Ing. Gerhard Mader (mfr., agent, repairer), Barawitzkagasse 26, A-1190 Vienna. WTD 8/72.

Fabricated structural metal products

34492 — AUSTRIA — Panels, parts, sections for prefabricated buildings; steel, aluminum. Ing. Gerhard Mader (mfr., agent, repairer), Barawitzkagasse 26, A-1190 Vienna. WTD 8/72.

Fabricated metal products

34970—PARAGUAY—Plates and dishes, aluminum foil. Jose Teixido y Cia. (importer, dist.), Calle Humaita 309, Asuncion. WTD 8/72.

Engines, turbines

35191—THAILAND — Gasoline engines, 3-9 h.p. Requests c.i.f. Bangkok prices, catalogs, brochures. Federal Siam Ltd., Part. (advertising agency), 584/7 Siphya Rd., Bangkok. WTD 8/72.

35193—THAILAND—Diesel engines, 4-16 h.p. Requests c.i.f. Bangkok prices, catalogs, brochures. Federal Siam Ltd., Part. (advertising agency), 584/7 Siphya Rd., Bangkok. WTD 8/72.

Construction, mining, materials handling machinery, equipment

35319 — JAPAN — Portable machines to crush empty cans size of automobile lubrication oil cans. Tanaka Engineering Works, Ltd. Attn: Mr. Shinichi Yoshida, Overseas Dept. (mfr.), 4th Floor, Amagi Bldg., 1-26 Roppongi 6-chome, Minato-ku, Tokyo. WTD in prep.

35350 — AUSTRIA — Conveying equipment; parts, accessories. Ing. Gerhard Mader (mfr., agent, repairer), Barawitzkagasse 26, A-1190 Vienna. WTD 8/72.

Special industry machinery

35500—NIGERIA—Fire alarm systems for industrial, commercial, and institutional buildings. Firm wishes to conclude tentative agency agreement prior to Communications and Electronic Trade Fair scheduled Federal Palace Hotel, Lagos, Oct. 16-21. Interested parties should write Ayodeji Amosu, Mng. Dir., Sentrycom Alarms (Nigeria) Ltd., 156 Herbert Macauley St., Ebute-Metta, Lagos. WTD 8/70.

35512—SOUTH AFRICA—All types of foodstuff processing machinery. Stafford Bros. & Draeger (Pty.) Ltd, Attn: G. G. Cullum (importer, dist., agent), P.O. Box 10645, Johannesburg, Transvaal. WTD 8/72.

35552—JAMAICA—Plate making equipment for offset printers. Quotations c.i.f. Kingston. Exclusive agency for Carifta area. Embassy of the United States of America, Attn: Commercial Officer TO-11; No. 43 Duke St., Kingston.

35591—KOREA—Chemical industry machinery, parts. Suh Chun Enterprise Co., Ltd., Attn: H. Y. Lee (importer, agent), I.P.O. Box 2982, Seoul 100. WTD 1/71.

35593 — AUSTRIA — Plastics-working machinery and equipment, including parts, accessories. Ing. Gerhard Mader (mfr., agent, repairer), Barawitzkagasse 26, A-1190 Vienna. WTD 8/72.

35593—SWITZERLAND—Plastics working machinery, equipment. Centrofin SA, Attn: Mr. Moreno, sales mgr. (importer, dist.), P.O. Box 53, 1000 Lausanne 4. WTD in prep.

35594—SWITZERLAND—Rubber working machinery, equipment. Centrofin SA, Attn: Mr. Moreno, sales mgr. (importer, dist.), P.O. Box 53, 1000 Lausanne 4. WTD in prep.

35595—SWITZERLAND—Machinery for electronics industry. Centrofin SA, Attn:

Mr. Moreno, sales mgr. (importer, dist.), P.O. Box 53, 1000 Lausanne 4. WTD in prep.

General industrial machinery

35690 — SWITZERLAND — Packaging, wrapping machines. Centrofin SA, Attn: Mr. Moreno, sales mgr. (importer, dist.), P.O. Box 53, 1000 Lausanne 4. WTD in prep.

Office, computing, accounting machines

35720 — MEXICO — Typewriters, parts. Newberry y Cía., S.A. (importer, dist., agent), Av. Independencia 800, Chihuahua, Chih. WTD in prep.

35731—ISRAEL— Electronic equipment for hotel reservation and room status recording to include related devices, accessories. Exclusive agency. International Consultants (Icconsult) Ltd. (importer, agent, business consultants), Hadar Daphna Bldg. D-412, 39 Shaul Hamelech Blvd., Tel Aviv. WTD 5/72.

35733 — JAPAN — Electronic computer peripheral equipment, especially data communications equipment. Nihon Data Center Corp. (EDP service), New Shimbashi Bldg., 16-1 Shimbashi 2-chome, Minato-ku, Tokyo 105. WTD in prep.

35733 — SWEDEN — Magnetic computer tapes; disc packs. Sarogina Trading AB (importer, dist., agent), 16 Armfeltsgatan, S-115 34 Stockholm. WTD in prep.

35741—SOUTH AFRICA—Office calculating machines. Efficiency Machines (Pty.) Ltd. (importer, retailer), Caris House, Carisbrook St., P.O. Box 4449, Cape Town, Cape Province. WTD 8/72.

35791—MEXICO—Addressing, dictating, duplicating, other office and store machines. Newberry y Cía., S.A. (importer, dist., agent), Av. Independencia 800, Chihuahua, Chih. WTD in prep.

35791—SOUTH AFRICA—Office franking machines. Efficiency Machines (Pty.) Ltd. (importer, retailer), Caris House, Carisbrook St., P.O. Box 4449, Cape Town, Cape Province. WTD 8/72.

Service industry machines

35891—SINGAPORE—Commercial kitchen and cooking equipment, such as food mixers, food preparation equipment. Thomas Siow Kim Hock, Gen. Mng., Indimex (Pte.) Ltd. (importer, dist., agent), 283D/285D Selegie Complex (4th floor), Selegie Road (P.O. Box 57 Queen St.), Singapore 7. WTD 8/72.

35892—LUXEMBOURG—Pollution control equipment. Exclusive distribution rights for Europe (Common Market). Stock possible. World Services Europe (importer, dist., agent), 15 rue de Strasbourg, Luxembourg. WTD 8/72.

Electrical industrial apparatus

36220—UNITED KINGDOM — Mercury wetted electrical relays. Exclusive agency. Simmonds & Robinson Ltd., Attn: Lewis E. Simmonds, mng. dir. (importer, dist., exporter), 44 Park St., Camberley, Surrey. WTD in prep.

36220 — SWEDEN — Electronic controls for process industry and control equipment for marine machinery. Rossing AB, Gunnar (importer, dist., agent), Box 5120, S-217 45 Malmö 5. WTD 12/71.

Communication equipment

36621 — SINGAPORE — Commercial, industrial radio electronic communication equipment except telephone communication and broadcasting equipment. Richard Lee Wah Lam, Mng. Dir., RICO (Pte.) Ltd. (agent), 8-B Jervois Rd., Singapore 10. WTD 6/72.

36625 — SINGAPORE — Radar systems and equipment (marine). Richard Lee Wah Lam, Mng. Dir., RICO (Pte.) Ltd. (agent), 8-B Jervois Rd., Singapore 10. WTD 6/72.

Electronic components, accessories

36740 — UNITED KINGDOM — Photoelectric cells, new or innovative types. Photain Controls Ltd. (dist., mfr.), Randalls Rd., Leatherhead, Surrey. WTD in prep.

36740 — SWITZERLAND — Semiconductors; printed, integrated circuits. Matera AG, Attn: Mr. Rémy Armbruster, pres. (dist., agent), Leonhardstr. 37, 4000 Basel. WTD 8/72.

36790 — SWITZERLAND — Electronic components, accessories, all kinds; wire wrapping tools, tools for electronics industry. Matera AG, Attn: Mr. Rémy Armbruster, pres. (dist., agent), Leonhardstr. 37, 4000 Basel. WTD 8/72.

Aircraft, parts

37213—THAILAND—Military transport aircraft. Exclusive distributorship franchise required. Requests catalogs, brochures, price lists. Wara Engineering Ltd.. Part. (importer, dist., agent), 120/37 Rajprarop Rd., Bangkok 4. WTD 7/72.

Engineering, laboratory, scientific, research instruments

38112 — SINGAPORE — Testing instruments. Richard Lee Wah Lam. Mng. Dir., RICO (Pte) Ltd. (agent), 8-B Jervois Rd., Singapore 10. WTD 6/72.

Surgical, medical, dental instruments

38410—GERMANY—Automatic photometers for clinical. chemical analyses. Exclusive agency. Dr. Bruno Lange GmbH (mfr), 14-18 Hermannstrasse, 1 Berlin 37. WTD 8/72.

38410—SWITZERLAND—Oxygen analyzers and measuring devices; apparatus and equipment for anesthesia, reanimation and intensive care; soda lime with color indicator for use in anesthesia to determine carbonic acid. Carl Hermetschweiler - Wirth (importer, agent, retailer). Fraumuensterstr. 14, 8022 Zurich. WTD in prep.

38423—SINGAPORE—Respiratory protection equipment. eye and face protection devices including face shields, heads and welding helmets and masks. other industrial safety equipment. Thomas Siow Kim Hock, Gen. Mgr, Indimex (Pvt. Ltd.) (importer, dist., agent), 283D/285D Selegie Complex (4th floor), Selegie Road (P.O. Box 57, Queen St.), Singapore 7. WTD 8/72.

Photographic equipment

38611 — JAMAICA — Lighting tables or line-up tables for inspecting photographic negatives. Quotations: c.i.f. Kingston. Exclusive agency for Carifta area. Embassy of the United States, Attn: Commercial Officer TO-10; No. 43 Duke St., Kingston.

38612—SOUTH AFRICA—Office photocopying equipment, supplies. Efficiency Machines (Pty.) Ltd. (importer, retailer), Caris House, 1 Carisbrook St., P.O. Box 4449, Cape Town, Cape Province. WTD 8/72.

Jewelry, silverware, plated ware

39112 — AUSTRIA — Jewelry made of precious metals, novelty items carried or worn about the person, e.g., compacts, lockets, vanity cases. Heinrich Nikoll Ges.m.b.H. (importer, dist., agent), Rauchfangkehrergasse 4/13, A-1150 Vienna. WTD 8/72.

39141 — AUSTRIA — Silver or stainless steel toiletware, novelties. Heinrich Nikoll Ges.m.b.H. (importer, dist., agent), Rauchfangkehrergasse 4/13, A-1150 Vienna. WTD 8/72.

Toys, amusement, sporting goods

39410 — SINGAPORE — Doll carriages, doll carts; infant and preschool toys, including musical toys and toy musical instruments (e.g. music mate); toy trains and equipment. Mr. Long Say Kok, Mng. Partner, Lee Teck & Co. (importer, dist., retailer), 167 Thomson Rd., Goldhill Shopping Center, Singapore 11. WTD 8/72.

39420—SINGAPORE—Dolls and stuffed toy animals, including puppets. Mr. Long Say Kok, Mng. Partner, Lee Teck & Co. (importer, dist., retailer), 167 Thomson Rd., Goldhill Shopping Center, Singapore 11. WTD 8/72.

39430 — SINGAPORE — Baby carriages, strollers, walkers, etc. Mr. Long Say Kok, Mng. Partner, Lee Teck & Co. (importer, dist., retailer), 167 Thomson Rd., Goldhill Shopping Center, Singapore 11. WTD 8/72.

Costume jewelry, novelties

39610—AUSTRIA—Costume jewelry and novelties, compacts, vanity cases. Heinrich Nikoll Ges.m.b.H. (importer, dist., agent), Rauchfangkehrergasse 4/13, A-1150 Vienna. WTD 8/72.

Manufacturing industries

39991—SINGAPORE—Chemical fire extinguishing equipment, parts: portable extinguishers. Thomas Siow Kim Hock, Gen. Mgr., Indimex (Pvt. Ltd.) (importer, dist., agent), 283D/285D Selegie Complex (4th floor), Selegie Rd. (P.O. Box 57 Queen St.), Singapore 7. WTD 8/72.

39992 — FINLAND — Gambling devices (jackpot machines), new or used. Bateman Associates Trade Center Ky., Attn: William R. Bateman, pres. (agent), Sampola A 2, 04310 Tuusula. WTD 2/72.

Papua Announces Bids On Communications System

The Papua New Guinea Electricity Commission has issued Tender No. 91-71/72 for the supply, delivery, installation testing and commissioning of an integrated communications system. Bid deadline 3 p.m., November 29.

Bid should offer capacitor voltage transformers, power line carrier coupling, and terminal equipment, telephone equipment supervisory control equipment and voice frequency telemetering equipment. Copies of tender announcement and specifications are available only from the Secretary, Papua and New Guinea Electricity Commission, P.O. Box 1105, Boroko, Papua, New Guinea for A$100.00 for first copy, A$15.00 for each additional copy (US $1.00=A$1.20).

Other Foreign Official Tenders

BOLIVIA—The Departamento de Compras has offered to buy a one year supply of **medicines, materials and instruments.** Tender No. 11/72, bid deadline Oct. 2. Invited by the Departamento de Compras, Caja Nacional de Seguridad Social (CASEGURAL), Casilla 697, La Paz, Bolivia. Terms and specifications may be obtained from CASEGURAL at the above mentioned address, but offers from firms outside Bolivia may be presented to Bolivian Embassies or Consulates.

BAHRAIN—Tenders are invited for the manufacture, supply, testing, packing, delivery, erection, commissioning and maintenance for 12 months of a **plant to be installed** in Bahrain comprising the following: Three 7.5 m.i.g.p.d. and two 0.375 m.i.g.p.d. variable-speed horizontal pumps, approximately 21,000 ft. of twin 20" pipeline and 9,500 ft. of single 5" pipeline, valves, surge suppression equipment, instrumentation and control equipment, all suitable for the transmission of distilled sea water. Installation is to be complete and available for full commercial service by Dec. 1, 1974. A short summary describing the extent of the contract may be obtained from Messrs. Preece, Cardew & Rider, Paston House, 165/167 Preston Rd., Brighton, BN1 6AF Sussex, England. Tender documents are available at the above address. Applications should be made in writing and must be accompanied by evidence of technical and financial competence in handling similar projects. Tenders are to be submitted in duplicate by 12 noon local time on Dec. 2, to the following address: Director of Planning, Ministry of Development, Government House, P.O. Box 235, Bahrain.

PAPUA (NEW GUINEA)—The Superintendent, Supply and Transport Branch, Dept. of Posts and Telegraphs, P.O. Box 6352 Boroko, Papua New Guinea has issued tender No. A 2264 for the supply of **teleprinters.** Bid deadline is 1:30 p.m., Oct. 31. Bid should offer 30 five-unit teleprinters without tape facilities, 70 five-unit page printing teleprinters with tape facilities, and 4 eight-unit page printing teleprinters with tape facilities. Copies of tender announcement and specifications are available from the above or from Messrs. Preece, Carden and Rider, Consulting Engineers, Paston House, 165/167 Preston Rd., Brighton, BN1 6AF, England.

COLOMBIA — The Instituto Colombiano de Energia Electrica (Colombian Institute of Electric Power) is asking for tenders for the design, supply, transportation, labor, installation, start-up, and financing of **towers, insulators, fittings, and metal devices for the 115-kv transmission line** in the State of Narino under a system known as "Llave en Mano" (turnkey). Specifications may be purchased from the above agency, Carrera 13 No. 27-00, Oficina 313, Bogota, for 1,500 Colombian pesos for the first copy and 500 pesos for each additional copy (approximately 21.80 pesos equal one U.S. dollar). These fees will not be refunded. All bidders must submit a Seriousness Guarantee Bond equivalent to 500,000 pesos, valid for 120 days as of the closing date of the tender. Bids must be submitted to the Secretariat General de Instituto Colombiano de Energia Electrica before 3 p.m., October 6.

SPAIN—The Instituto Nacional de Investigaciones Agrarias (National Agrarian Research Institute), Ministry of Agriculture, has made an announcement covering planned **construction of research centers** in Cordoba, La Coruna, Valencia, and Alcala de Henares (Madrid). The project is expected to be initiated during 1973 and will be financed with Spanish Government funds and a World Bank loan. Interested firms should request prequalification application forms from: Dr. S. R. Freiberg, Vice President, IRI Research Institute, Inc., One Rockefeller Plaza, New York, N.Y. 10020. Prequalification deadline is Oct. 15. Copies of the official notice in English are available from the Construction, Water Resources & Eng. Div., BDC-742, U.S. Dept. of Commerce, Washington, D.C. 20230 (202-967-3602) and the U.S. Dept. of Commerce Field Office, 11444 Federal Bldg., 450 Golden Gate Ave., P.O. Box 36013, San Francisco, Calif. 94102 (415-556-5864).

SOUTH AFRICA—The Head, Capital Buying, South African Iron & Steel Industrial Corp., P.O. Box 450, Pretoria, Transvaal, invites bids for the following **railway construction projects** (bid deadlines and tender documents deposits are indicated): 1) Enquiry SA 6, Great Berg River Bridge (Oct. 6; R250); 2) Enquiry SA 15, platelaying for the Sishen-Saldanha main railway line, Sec. A, Saldanha to Halfway Station and Sec. B, Halfway Station to Sishen (Oct. 30; R500); 3) Enquiry SA 18, the marshalling yard at Saldanha Bay (Oct. 6; R250); 4) Enquiry SA 19, the earthworks and minor structures for the Sishen-Saldanha railway line (chainage 0 km—78.5 km) (Oct. 6; R250); 5) Enquiry SA 20, the earthworks and minor structures for the Sishen-Saldanha railway line (chainage 79.6 km—175.4 km) (Oct. 13; R250); 6) Enquiry SA 21, Vars River Bridge and Sout River Bridges (two) (Oct. 13; R250); 7) Enquiry SA 22, Krom River Bridges (two) and Ibiquas River Bridge (Oct. 20; R250); 8) Enquiry SA 23, Hartbees River Bridge (Oct. 26; R250); 9) Enquiry SA 24, Orange River Bridge (Oct. 30; R250); 10) Enquiry SA 25, the earthworks and minor structures for the Sishen-Saldanha railway line (chainage 176 km—262.3 km) (Oct. 20; R250); 11) Enquiry SA 26, the earthworks and minor structures for the Sishen-Saldanha railway line (chainage 262.3 km-363 km) (Oct. 26; R350); 12) Enquiry SA 27, the earthworks and minor structures for the Sishen-Saldanha railway line (chainage 363 km—582.9 km) (Oct. 20; R250); 13) Enquiry SA 28, tunnels: Sec. A, Baboon Point Tunnel, Sec. B, Krom River Tunnel (Oct. 13; R350); 14) Enquiry SA 29, the earthworks and minor structures for the Sishen-Saldanha railway line (chainage 582.9 km—686.8 km) (Oct. 13; R250); 15) Enquiry SA 30, the earthworks and minor structures for the Sishen-Saldanha railway line (chainage 687.2 km—861 km) (Oct. 30; R250); 16) Enquiry SA 31, the marshalling yard at Sishen (Oct. 27; R250); and 17) Enquiry SA 32, prestressed concrete railway sleepers, sections A and B for the Sishen-Saldanha Bay railway line (Oct. 26; R500). The deposits will only be refunded upon receipt of a bona fide tender for the complete project (1R=approx. $1.32). Prospective tenderers can examine the enquiry documents at Room C-625-C, ISCOR Headquarters, Wagonwheel Circle, Pretoria. Checks payable to the South African Iron and Steel Industrial Corp., Ltd.

Mexico To Register Bidders For Irrigation Projects

The Secretaria de Recursos Hidraulicos has called for registration of contractors interested in participating in projects proposed for rehabilitation of Irrigation District No. 14, Rio Colorado, B.C., and Sonora. The projects are partially funded by a loan from the World Bank. Firms from member countries are eligible to bid.

The following projects are contemplated: a) Zona Irapuato canals—41,715 km.; excavation, 45,500 m.^{3}; dike construction, 830,000 m.^{3}; concrete finishing of canal, 14,000 m.^{3}; concrete structures, 2,100 m.^{3}; road surfacing, 16,190 m.^{3}; and drains—31,950 km.; excavation, 1,222,000 m.^{3}; earthmoving for dikes, 340,000 m.^{3}; concrete structures, 1,670 m.^{3}. b) Zona Durango canals—32,400 km.; excavation, 355,000 m.^{3}; dike construction, 532,000 m.^{3}; concrete finishing of canal, 14,000 m.^{3}; concrete structures, 2,100 m.^{3}; road surfacing, 12,550 m.^{3}; and drains—26,800 km.; excavation 224,000 m.^{3}; concrete structures, 1,290 m.^{3}. c) Zona Oaxaca canals—33,939 km.; excavation, 355,000 m.^{3}; dike construction, 532,000 m.^{3}; concrete finishing of canal, 14,000 m.^{3}; road surfacing, 13,140 m.^{3}; and drains—28,073 km., excavation, 224,000 m.^{3}; concrete structures, 1,350 m.^{3}. d) Zona Carranza canals—56,191 km.; excavation, 585,000 m.^{3}; dike construction, 876,000 m.^{3}; concrete finishing of canal, 23,300 m.^{3}; concrete structures, 3,548 m.^{3}; road surfacing 21,260 m.^{3}; and drains—43,359 km.; excavation, 370,000 m.^{3}; concrete structures, 2,190 m.^{3}. e) perforation of wells, 30 units. f) rehabilitation of wells, 80 units.

Interested firms must register with the Oficina de Registro e Informacion de la Controloria General, Secretaria de Recursos Hidraulicos, Calle de Antonio Caso No. 19, 5 Piso, Mexico, D.F. A copy of the registry must be presented to the Departamento de Contratos de la Direccion de Construccion de Grande Irrigacion, Paseo de la Reforma No. 69, Piso 10, Mexico, D.F.

Firms will be expected to furnish evidence of their experience, available equipment and technical capability, as well as evidence of financial capacity and ability to complete the work in time.

Austrian Marketing Consultant Offers Services To U.S. Firms

An Austrian firm, Rolf A. Huber & Assoc., Auhofstrasse 21-C, A-1130 Vienna, a team of marketing specialists, offers its services to U.S. exporters interested in selling to the Austrian and/or Eastern European markets. These services include market research as well as the location of agents, distributors, importers, license and joint venture partners. WTD in prep.

Future Construction Abroad

CANADA—Construction commenced in May on a 75-unit townhouse project in Vancouver which is valued at $3 million. It is expected that the project will be completed by January 1973. Interested U.S. firms are invited to bid on **all types of supplies and equipment** normally required for a building of this nature. All inquiries should be addressed to: Arthur Block, Block Brothers Realty Ltd., 1030 West Georgia St., Vancouver, B.C.

THAILAND—Under the Third Five-Year National Development Plan, the Royal Irrigation Department, Government of Thailand, is developing an **irrigation project** in the Province of Pitsanuloke. It may cost $100 million and involve construction of a **diversionary dam on the Nam River** with canal systems for distribution of water to the upper delta of the Chao Phya River.

With the assistance of AID and the Bureau of Reclamation a feasibility survey has been completed. The Royal Irrigation Department's own engineers are doing the engineering survey and design work. A $20 million World Bank loan (this is a planning figure) to finance the foreign exchange cost of the first stage, has been discussed. Foreign supervisory engineering services may be solicited by invitation if an IBRD loan is obtained. Interested U.S. firms may obtain aditional information by writing to: Sawaeng Poonsook, Director-General, Royal Irrigation Department, Samsen Rd., Bangkok.

THAILAND—The **Chao Phya Irrigation Development Project involves improvements and extensions to the existing distribution system.** The total cost is estimated to be around $25 million. It is expected to be financed by the national budget and by a foreign exchange loan of about $5 million from the World Bank. The Netherlands Engineering Consultant (NEDECO), under grant from the Netherlands Government, conducted a feasibility study for the Royal Irrigation Department, who later also completed an engineering survey and design for the project. It is expected that NEDECO will be chosen as the supervising engineers. An international bid will be issued for major construction if a loan from IBRD or IDA is approved. U.S. firms interested in the project may obtain additional information from: Mr. Sawaeng Poonsook, Director-General, Royal Irrigation Department, Samsen Rd., Bangkok.

ARGENTINA—The Government of Argentina, by law, has appointed Yacimientos Carboniferos Fiscales (YCF) as the State-owned agency to bring production up to double or triple present production of about 1.5 million metric tons (MT) of raw coal per year. To increase the production in the Rio Turbio, Santa Cruz, basin to 3 million MT annually by 1975 and to 8 million MT by 1980. YCF is also charged with **prospecting and developing coal deposits in Mendoza Province,** and any other likely areas in the Republic. The development of new **thermal electric plants** in or near coal bearing zones are to be constructed so as to utilize coal, and any other ways to use coal (instead of petroleum). In addition, the construction of **coal handling facilities** at Argentine ports. The 150 Km. narrow gauge railway running from Rio Turbio to Rio Gallegos will have to be completely modernized, as will the Rio Gallegos port facilities. If the new "national interest" status of the coal industry obtains proper funding and YCF is given the go-ahead signal, there should be opportunities for U.S. producers of coal mining machinery, coal washing equipment, tram cars, mine locomotives, prospecting equipment and mining accessories. Interested U.S. firms should write directly to: Yacimientos Carboniferos Fiscales, Av. R. S. Pena 1190, 4° Piso, Buenos Aires.

JORDAN—The Government of Jordan and private sectors are planning construction of a **ceramic plant** for the manufacture of wall tiles and sanitary ware. The projected plant 1 stage capacity to produce 4160 metric tons of glazed wall tiles and 3100 metric tons of vitrified sanitary ware per year. Total cost is estimated at $5 million. Preliminary studies and feasibility were completed by Lebanese, British and U.S. consultants. Complete details on the final results can be obtained from the U.S. consultants, Swindell-Dressler Co., Wilmington, Del. (subsidized by AID). The private sectors are interested in making contact with reputable U.S. suppliers, to be partners, or to supply equipment and technical know-how, also to provide facilities for local staff training.

THAILAND—National Energy Authority (NEA) of Thailand is conducting a study of an **oil pipeline** across the Kra Isthmus, South Thailand. Original survey was conducted by the Japanese Government. Although this project is still a preliminary stage, U.S. firms interested in indicating an interest in or wishing additional information may write to Nitipat Chalijan, Secretary General, National Energy Authority, Pibultham Villa, Kasatsuek Bridge, Yose, Bangkok.

The Assistant General Manager of the Bangkok branch of Marubeni Corp. (Japanese firm that initiated the pipeline project) indicated interest in discussing joint venture possibilities with U.S. firms on this project. Write to T. Tanaka (B5CO), mgr., Oil and Gas Development Department, Marubeni Corp., 4 - 2 Ohtemachi 1-chome, Chiyoda-ku, Tokyo.

THAILAND—The Thai Peninsula Canal Project was officially approved in principle by the National Executive Council's (NEC) Chairman July 10. The National Energy Authority (NEA) has been given responsibility to proceed with preliminary planning in coordination with the National Economic Development Board. The canal will link the Indian Ocean with the Gulf of Thailand and have a total length of about 155 kilometers across Thailand's Southern Peninsula, at points not yet determined. The canal was initially planned for 120 meters wide and able to accommodate oil tankers up to 100,000 tons capacity. Nuclear power is contemplated for construction. NEA now is requesting the necessary budget for the initial geographical and hydrographical surveys. Write to Nitipat Jalichan, Secretary General of National Energy Authority, Pibultham Villa, Kastsuk Bridge, Yodse, Bangkok.

CANADA—Construction on a **$1.5 million, 56-unit hotel** in Delta, British Columbia is expected to begin in early August. The project should be completed sometime in December. The builder's architect stated that interested U.S. firms may bid on all types of supplies and equipment normally required for a building of this nature. Address inquiries to: John Genner, L. J. E. Genner and Asso., 2256 W. 12th Ave., Vancouver 9, B.C.

CANADA — Air Canada, Place Ville Marie, Montreal, plans to start a **STOL (short take-off and landing) service** between Montreal and Ottawa in about one year to test the feasibility of STOL operations. No firm decision has been made on the Montreal site. The project should create business opportunities for U.S. suppliers of specialized airport equipment.

JAMAICA — Construction of the **Guinness Brewery plant** is to start soon. Estimated to cost $6 million and to be sited on 24 acres of land about 10 miles west of Kingston. It is to produce **2.5 million gallons of Guinness stout annually and one million gallons of beer annually over the next ten years.** The plant is to be completed by the end of 1973. The Guinness project will be seeking brewery equipment, air conditioning and refrigeration equipment, bottling and labeling equipment. Hops imports will begin when production starts, probably late 1973 or early 1974. Developers—Guinness Jamaica Ltd., 473 Spanish Town Rd., Kingston 11 (936-3141). Consulting Engineers — Benghait Associates, 20 West Kings House Rd., Kingston 10 (926-3415). Contractors—Douglas Pierce Engineers Ltd., 11A Swallowfield Rd., Kingston 5, (926-5421).

JAMAICA — The Shipping Assn. of Jamaica will build a new **eight story headquarters,** at Newport West, Jamaica's major dock and warehouse complex, estimated to cost $600,000. Construction to commence in the fall of this year and completion is expected within 18 months. The new headquarters offers opportunities for the sale of **central air conditioning, some plumbing and lighting fixtures and general office equipment.** Developers—The Shipping Assn. of Jamaica, Water Lane, Kingston (929-1630). Architects—Michael Carter Partnership, 1 Worthington Ave., Kingston 5 (937-9967). Consulting Engineers—Benghait Associates, 20 West Kings House Rd., Kingston 10 (926-3415). Contractors — Caribbean Construction Co. Ltd., Harbour Head, Kingston 17 (938-6221).

CANADA — The Minister of Transport Jamieson announced on July 4 **six major proposals to improve rail and road transportation facilities in British Columbia and the Yukon Territory.** They are to be accomplished over the next ten years. Copies of press releases on each of these projects, each containing a map, and an excerpt of Prime Minister's Edmonton speech on the highway along the Mackenzie River, are available from the U.S. Dept. of Commerce, Business Opportunities Division, BDC-584, Rm 4813, Washington, D.C., 20230.

BELGIUM—SOBELGRA n.v., the principal grain handler in the Port of Ant-

werp plans to expand its grain silos in the dock areas. Present storage capacity of Sobelgra amounts to 50,000 tons. By building **two groups of cylindrical silos with a height of 138 ft., served both by elevators and conveyor belts,** it will add 30,000 tons to its present storage space, bringing the total capacity of grain silos in the port up to 165,000 tons.

BELGIUM—The Government of Belgium is developing pollution control standards and has embarked on a major program to build **wastewater treatment systems.** Belgium has decided to allocate $33.5 to $47 million annually for the next 15 years for construction of sewage and industrial wastwater treatment plants. First of these funds were spent this year for a water treatment project on the Albert Canal, involving an industrial waste collection system and four pumping stations. Future water purification systems are to be built under supervision of three Regional Water Basin Authorities established in 1971. Presidents of Water Basin Authorities will be responsible for planning projects and selecting contractors through public tender. Interested firms can write: DeBaenst, Ministry of Health, CITE Administrative, Quartier Vesale, Brussels.

FRANCE—Three industrial plants are interested in hearing from U.S. manufacturers. The plants are: **Marrel Freres—steel plant, producer of high specification steel plates** with weights of 20 to 50 tons and thicknesses of 50 mm. and above. **Cogedur**—specializes in **aluminum extrusions** and particularly bars, shapes and tubes. **Mavilor**—specializes in **building diesel crankshafts** and special machines. Further information and contacts are available from the U.S. Dept. of Commerce, Business Opportunities Division, BDC-584, Rm 4813, Washington, D.C., 20230.

ARGENTINA—The Minister of Public Works has announced the creation of a National Superhighway Fund to build 2,000 kilometers of four-lane, limited access superhighways over the next ten years, at a cost of 5,000 million pesos. The new fund will also be used to build major highway arteries in metropolitan areas, principally Buenos Aires. In addition, the Federal Highway Administration will spend 1,800 million pesos during 1972 for new highway construction and maintenance. Construction activity will be continuous, stimulating demand for road maintenance and construction machinery. U.S. suppliers can find an excellent market in Argentina in road testing and gauging instruments, especially sophisticated or specialized machinery.

SWEDEN — Dow Chemical has announced that it will go ahead with construction of a **$4.2 million latex plant at Norrkoping.** Originally was planned to start construction in 1970, but was postponed because of concern over water pollution. Dow has now prepared a waste water system acceptable to Swedish authorities and permission to build has been granted. Officials of the company state that the plant will produce latex for the paper and carpet industries in Sweden and the rest of Scandinavia.

YUGOSLAVIA—The engineers for the **5,000-bed Babin Kuk tourist hotel** (*Commerce Today*, July 24) are Bovay Engineers, Inc. of Houston, Spokane and Baton Rouge, P.O. Box 8098, 5009 Caroline St., Houston, Tex., 77004.

PERU—Petroleos del Peru (PETROPERU), Ave, Central 717, San Isidro, Lima, the State oil company, has signed a contract with Bechtel Inc., for **prefeasibility and feasibility studies for Peru's proposed trans-Andean pipeline.** The Corporacion Financiera de Desarrollo (COFIDE), the State financing agency, will lend Petroperu more than $853,000 to finance the Bechtel contract. Petroperu is planning to begin pipeline negotiations as soon as possible and the pipeline can be started once a production of 100,000 b.p.d. is guaranteed, and Petroperu will probably wish to enter into serious negotiations with pipeline contractors well in advance of that point. The company has spudded three wells, of which two are commercial successes, and has stepped up its program with another rig to drill confirmation wells.

CANADA — The 10-year, C$300 million **sewage treatment project** for Montreal (see *Commerce Today*, Nov. 1, 1971) stated that the first construction tenders should be called by Fall 1972. However the funds authorized last August by the Montreal Urban Community have been withheld and the project is now some six months behind schedule. It is now expected that the first construction tenders will be called in late spring or summer.

MEXICO—The State of Puebla hopes to begin construction soon on an $8 million **industrial city** located on the Mexico City-Puebla highway. Jesus Davila Fuentes of Nacional Financiera in Puebla announced that his organization would finance half the project. The Puebla industrial park facilities are to be the first of a number of regional parks planned by the Mexican Government. Others are being considered for Tlaxcala, Oaxaca, Aguascalientes, Zacatecas, and San Luis Potosi. Considerable additional time is likely to elapse, however, before even the Puebla facilities are completed.

AUSTRALIA — Magellan Petroleum Australia Ltd. has negotiated with Commonwealth Authorities for a **small Alice Springs refinery to process mereenie crude.** The project cost is estimated at $9.6 million, including the pipeline. The refinery would have only a 4,000-barrel daily capacity to serve small, remote markets of Alice Springs and Tenneant Creek, Northern Territory, located almost 1,000 miles from the sea and the major population centers. Interested U.S. firms should contact: John Blackwood, Controller of Finance, Magellan Petroleum Australia Ltd., Brisbane, and Exoil NL, 127 Eagle St., Brisbane.

KOREA—The City Government of Seoul is planning a **$6 million Seoul Children's Grand Park,** about five miles outside the city on the site of the Seoul Country Club. The planners of the project are interested in receiving brochures and quotations covering equipment which may be suitable for inclusion in the park. Interested U.S. firms should mail information to Hyong-Shik Hur, Chief, Forested Land Sec., Bureau of Industry, Special City of Seoul, 32, 1-ka, Taepyong-ro, Chung-Ku, Seoul. A list of planned facilities and timetable for the project are available from the Distribution, Marketing and Service Industries Division, BDC-736, Department of Commerce, Washington, D.C. 20230.

MEXICO — Monterrey's "Glass Group" (four glass container manufacturing companies) is planning to build **a private resort in a nearby scenic area for the use of its employees.** Access to the area will be by miniature railway. The resort facilities will include a rustic hotel (also serve small conventions), with facilities for 50 or more persons, complete playground and amusement park equipment. While most materials and equipment will be purchased locally, it is expected that the scenic railway, some of the amusement park facilities, and forest maintenance and fire fighting equipment will be imported. Planning for this development is being carried out by a local architect, Arq. Jose R. Canales, Condominio Acero Monterrey, Desp. 1407, Monterrey, N.L.

GERMANY—Construction of the "Kongresszentrum Berlin" **(Berlin Congress Center)** was scheduled to begin this year but several unanticipated problems make a delay until 1973 almost certain. The Kongresszentrum will be built for the "Berliner Ausstellungen, Eigenbetrieb von Berlin," a municipal corporation which administers Berlin's fair and congress facilities. Architects for the project are Ralf Schueler, Dipl.-Ing. Ursulina Witte, 66 Gabrielenstrasse, 1 Berlin 27. The general contractor is Neue Heimat Staedtebau, Lubecker Strasse 1, 2 Hamburg 22. U.S. firms and their foreign subsidiaries will eventually be able to bid on tenders for Kongresszentrum furnishings and equipment to be issued over the next several years by the project's sub-contractor. The planning office would like to receive informational material from U.S. manufacturers of the following: air-conditioning equipment, lighting equipment and fixtures, closed-circuit television equipment, institutional kitchen equipment, sound equipment, electric lifting and materials handling equipment, simultaneous translating equipment and enclosures, theater furnishings and fixtures, and office and accounting machines. Inquiries and offers should be addressed to both the 1) Plannungsbuero Kongresszentrum, Messegelaende, Pavillion A, Marschallhaus, 1 Berlin 19, and 2) project's subcontractor, Buero Bartels-Ing., 1 Berlin 15, Kurfuerstendamm 102. Contracts for furnishing the Kongresszentrum will only be issued after construction has begun and the planning office wishes to incorporate only the most modern equipment available at that time. Hence, potential U.S. suppliers must be patient, since orders will not in any event be forthcoming immediately. Information on new models and equipment should be submitted as it becomes available.

VENEZUELA—The Ministry of Public Works has announced that construction will begin this year on at least **one hospital of 600 beds** in Caracas, Hospital General del Este, and **five hospitals of 200 beds** each in the interior. **Nine other hospitals and two public health clinics are to be built** in the near future. Each hospital will contain facilities for obstetrics, surgery, physical therapy, shock treatment, blood banks, laboratories and clinics, and intensive care units. Each hospital will be constructed and fully equipped by an individual construction company under contract to the Ministry of Public Works. Fourteen different companies have been contracted to carry out the construction. Accordingly, U.S. companies should send catalogs and price information to the companies selected by the Ministry. A list of the construction

companies is available from the U.S. Department of Commerce, Informational Services Division, BDC-584, Rm. 4813, Washington, D.C. 20230. U.S. firms should also attempt to locate local distributors for their products which could in turn represent them to the construction companies contracted by the Ministry. Since replacement equipment for government hospitals is usually selected by public bidding procedures and not by the system described above, interested U.S. companies should also register with the Ministries of Public Works and Health as described in Airgram A-221 from Caracas which is also available from the address listed above.

ETHIOPIA—An advance notice of a contract bid for the construction of a **complex of buildings in Addis Ababa** is available from the U.S. Department of Commerce, Informational Services Div., BDC-584, Rm. 4813, Washington, D.C. 20230. This project will be financed by the World Bank and the Ethiopian Government. Design and contract will be carried out by the Finnish architect, Professor Aarno Ruusuvuori, but no contractor has been named for the complex, whose main occupant will be the Agricultural and Industrial Development Bank.

THAILAND—Bangkok Municipality has announced a plan to build an **expressway along the banks of the Chao Phya River.** Estimated to cost $75 million, the expressway will be 15 kilometers long. This project is still very preliminary, but if approved it will probably be financed by foreign loans. For this reason, contracts for engineering surveys, design, supervision, and construction may have to be arranged through international tender. For additional information write to: Prasert Komolmarn, Municipal Councillor, Municipality of Metropolitan Bangkok-Thonburi, Sao Chingch, Bangkok.

FRANCE—The companies presently involved in the construction of the **Le Havre Oil Tanker Terminal Project** stated they are interested in hearing from U.S. companies, some regarding construction, others for equipment as follows: a) U.S. companies interested in the tanker docking, oil pumping and storage facilities should contact Compagnie Industrielle Maritime (C.I.M.), Mr. Schlecht either at Service Technique, 76-Le Havre, France or 36, Rue De Liege, 75-Paris 8. b) U.S. suppliers of heavy duty cranes and large dump trucks should send inquiries to Mr. Van De Sype and Mr. Commeinhes, Compagnie Francaise D'Entreprise, B.P. 1126, 76-Le Havre, with a copy to Mr. Bronton, Compagnie Francaise D'Entreprise, 11, Rue Lazare Hoche, 92-Boulogne. c) Grands Travaux De Marseille, 61, Avenue Jules Quentin, 92-Nanterre, said that they are interested in receiving data and offers related to port construction projects from specialized U.S. firms. Correspondence should be addressed to Mr. Lamperiere and Mr. Blanc. d) Mr. Van Mierlo, Atlantic Dragage (A Dutch Subsidiary), 4, Rue Cassini, 44-Nantes, the company responsible for dragging the new port, said that his company presentely needs "Toran" and tracing tables. The above companies have a continuing interest in hearing from U.S. engineering and construction companies and equipment suppliers for the oil tanker terminal.

COLOMBIA—Construction of a **large glass factory** has been agreed upon between Gaseosas Posada-Tobon S.A. of Medellin and Gaseosas Lux S.A. of Bogota, two large and well-known producers and bottlers of soft drinks. The total cost of the new plant is estimated at 100 million pesos (21.98 pesos=$1), 60% of which will be invested in machinery and equipment. Financing is still being sought. Contact: Alvaro Lamprea, Vice President, Gaseosas Lux S.A., Avenida de las Americas, No. 53-09, Bogota.

LIBYA—A tabulation of **major government contracts planned or in hand** for the Libyan Arab Republic, prepared by the U.S. Embassy's Economic Commercial Section in Tripoli, is available to interested U.S. firms from the U.S. Department of Commerce, Informational Services Division, BDC-584, Rm. 4813, Washington, D.C. 20230.

AUSTRIA—The building of a new **repair and maintenance facility at Vienna-Schwechat Airport** will be handled through Baugesellschaft H. Rella & Co., Albertgasse 33, A-1081 Vienna. Offers pertaining to equipment for the facility, in particular the maintenance and overhaul of aircraft, should be directed to Technical Dept., Austrian Airlines, Vienna Schwechat Airport, A-1300 Vienna Airport, Attn: Dipl. Ing. Helmut Schoeberl.

ARGENTINA—YPF (Yacimientos Petroliferos Fiscales), the Argentine State Petroleum entity, has received government permission to purchase a used vessel for seismic research connected with petroleum exploration off the Argentine coast. The vessel to be purchased is to cost approx. $1.5 million, and is not to be over five years old. Financing arrangements will be required. The instrument package for the vessel will be selected on the basis of purchase of equipment which has the simplest fee arrangement. Vendors of the seismic research equipment must clearly state payment arrangements in their offer. Interested U.S. ship brokers dealing in second hand vessels of this size and type (a clean tugboat with a large after deck area would serve the purpose), and sellers of petroleum exploration apparatus used in offshore work, and seismic gear used offshore should contact: Dr. Ernesto Mario Lombard, Mgr., Dept. of Minerals and Exploratory Geology, YPF, Sarimiento 778, 8th Fl., Buenos Aires, and Dr. Pedro Criado, Chief, Office of Geology of Exploration, YPF, Av.R.S.Pena 777, 9th Fl., Buenos Aires.

MEXICO—Public Works Secretary Luis Bracamontes has announced that plans were well along to construct **three new airports for the Mexico City area.** He said the Government plans to construct: an airport at Ixtapaluca, in the State of Puebla, to be used by aviation training schools and general aviation aircraft; an airport at Huejotzingo, in the State of Puebla, to be used by military aircraft and possibly by medium-range jets; an airport at Zumpango, State of Mexico, which would ultimately replace the present Mexico City airport. Secretary Bracamontes mentioned neither starting dates nor target dates for completion of these projects.

JAPAN—Japanese plans for **construction of petroleum pipelines** will offer a market for advanced U.S. technology, equipment, and instruments related to pipelines. These include overall pipeline technology, pipe benders, pipe wrapping machines, pumps, high pressure valves, flow meters, level meters, interface detectors, and lead detectors. There are presently no long distance oil pipelines in Japan. Interested U.S. firms can obtain further information and a list of Japanese pipeline, engineering, and construction firms, and a table of Japanese production, imports, and tariffs, from the U.S. Department of Commerce, Trade Opportunities Division, BIC-831, Rm. 4813, Washington, D.C. 20230.

BOLIVIA-PERU—The Governments of Bolivia and Peru are planning a **joint petrochemical complex** plant on the Peruvian coast. The petrochemical complex, if carried out, would cost about $300 million and is expected to be finished by 1975. Sale of products estimated to reach $200 million annually. The complex would consist of three plants: one managed jointly, another managed by Bolivia and another managed by Peru.

IRELAND—The Government of Ireland is aiding the Harland & Wolff Ltd. **shipyard in Belfast** with £35 million to be expended for reorganizing, modernizing and expanding the yard and its production. Production will be increased from a throughput of 120,000 tons of steel per year to 200,000 and an estimated 4,000 new jobs. The project will start immediately and should be completed by 1975.

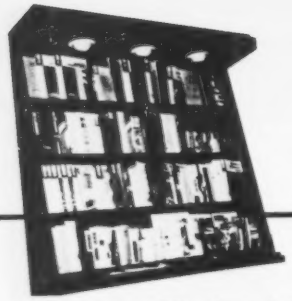
SWEDEN—The Government has given approval to the plans for constructing a **coking plant for the government-owned steelworks,** Norrbottens Jarnverk AB (NJA), in Lulea at an estimated cost of $71 million. The plant will have a capacity of 800,000 tons of coke a year, and harbor facilities costing a further $9 million will be built to service it. Interested U.S. firms may write to: Overingenjor Nils Rubin, Norrbottens Jarnverk AB, S-951 01 LULEA 1, Sweden.

German Firm Seeks Agency For U.S. Electronic Items

A German engineering consulting company is interested in serving as sales representative for U.S. suppliers of equipment for electric power distribution—high voltage porcelain products, industrial power supply cords, boosters and reactors, distribution equipment and switchgear; telephone and telegraph equipment; electronic control equipment; electronic control equipment; and laboratory, scientific, and measuring equipment. The firm is most interested in new technology and new products in the electronic and electrical sectors. Interested U.S. firms should write: EVB-Elektro Vertriebs-u. Bau GmbH., Postfach 420603, 5 Cologne. WTD 6/72.

India Offers To Purchase Channel Ship Chart Recorder

The Directorate General of Supplies and Disposals offers to purchase a channel ship chart recorder. Bid deadline is October 20. Purchase to be financed by World Bank Loan/Free Resources. Terms and specifications are available from India Supply Mission, 2536 Massachusetts Ave., NW., Washington, D.C. 20008. Tender fee is $1.50. Terms and specifications are *not available* from the Business, Photographic and Scientific Equipment Division, Washington, D.C. 20230.



New Publications

When ordering any publications, indicate title and series designation, if indicated, and make checks or money orders payable to the Superintendent of Documents. Orders should be sent to the U.S. Department of Commerce, Washington, D.C. 20230, or to any of its field offices.

MARITIME ADMINISTRATION

Trim and stability guide for container and barge-carrying ships. 108pp. $1.

UNITED STATES TRAVEL SERVICE

Selling the USA—United States Travel Service 16th program report: Jan.-Dec. 1971. 32pp. 50¢.

DOMESTIC AND INTERNATIONAL BUSINESS

BUREAU OF DOMESTIC COMMERCE

Construction review. Vol. 18, No. 7. Annual subscription $6.50 ($1.75 more for foreign mailing). Single copy 55¢.

Copper. Quarterly industry report. Vol. 18, No. 4. Annual subscription $1. (25¢ more for foreign mailing). Single copy 25¢.

Containers and packaging. Quarterly industry report. Vol. 25, No. 2. Annual subscription $1 (25¢ more for foreign mailing). Single copy 25¢.

Printing and publishing. Quarterly industry report. Vol. 13, No. 3. Annual subscription $1 (25¢ more for foreign mailing). Single copy 25¢.

BUREAU OF INTERNATIONAL COMMERCE

International Marketing Information Service

Foreign Economic Trends

Annual subscription $15 ($6 more for foreign mailing). Single copy 10¢.

Metropolitan Portugal (ET 72-074). 12pp.

Zambia (ET 72-080). 14pp.

Jamaica (ET 72-081). 8pp.

Tanzania (ET 72-087). 8pp.

International Marketing Information Service

Exhibitor's Export Market Guides

Expanding Italian apparel market strongly interested in advanced U.S. equipment (IMIS 72-027). 4pp. 10¢.

Sweden's metalworking industry prime market for U.S. production equipment (IMIS 72-030). 8pp. 10¢.

World Markets for U.S. Exports

Air-conditioning and refrigeration equipment—Belgium and the Netherlands (IMIS 72-222). 16pp. 10¢.

Air-conditioning and refrigeration equipment—Japan (IMIS 72-227). 16pp. 10¢.

Overseas Business Reports

Annual subscription $16 ($5 more for foreign mailing). Single copy 15¢.

Basic data on the economies of Southern Africa (Botswana, Lesotho, South Africa, and Swaziland) (OBR 72-030). 28pp.

Basic data on the economy of Cyprus (OBR 72-034). 10pp.

U.S. trade with major trading partners 1967-71 (OBR 72-040). 40pp.

Basic data on the economy of East Africa (Kenya, Tanzania and Uganda) (OBR 72-020). Supplements OBR 70-26. 52pp.

U.S. foreign trade by quarters: Jan.-March 1970—Jan.-March 1972 (OBR 72-039). 32pp.

SOCIAL AND ECONOMIC STATISTICS

Defense indicators: August 1972. Series ES4, No. 72-8. Annual subscription $3.50 ($1 more for foreign mailing). Single copy 35¢. Monthly report bringing together the principal time series on defense activity.

BUREAU OF THE CENSUS

Small-area data notes. Vol. 7, No. 8. 8pp. 10¢.

Agriculture

1969 Census of Agriculture Area Reports

Connecticut (Vol. 1, area reports, part 6). 328pp. $2.75.

Hawaii (Vol. 1, area reports, part 50). 277pp. $2.25.

Maine (Vol. 1, area reports, part 1). 433pp. $3.50.

Massachusetts (Vol. 1, area reports, part 4). 396pp. $3.

Construction and Housing

New one-family homes sold and for sale: June 1972 (C25-72-6). Annual subscription $3. Single copy: monthly, 10¢; annual, $2.

Housing completions: June 1972 (C22-72-6). Annual subscription $1. Single copy 10¢.

Market absorption of apartments: 2nd quarter 1972 (H-130-72-2). Annual subscription $1.50.

Housing starts: July 1972 (C20-72-7). Annual subscription $2. Single copy 20¢.

Construction and Housing

Value of new construction put in place: June 1972 (C30-72-6). Annual subscription $2.50, includes monthly and annual supplement. Single copy 25¢.

Vacant housing units in the United States: second quarter 1972 (Series H-111, 72-2). Annual subscription (Series H-111 and H-121, combined) $1.50 (50¢ more for foreign mailing). Single copy 20¢.

1970 Census of Housing

U.S. summary (HC(1)-B1). 458pp. $2.

Beaumont - Port Arthur - Orange, Tex. standard metropolitan statistical area (HC(2)-23). 83pp. 75¢.

Houston standard metropolitan statistical area (HC(2)-91). 90pp. $1.

Distribution and Services

Estimated retail sales of U.S. retail stores for week ending Aug. 19 (CB 72-209). 2pp. 10¢.

Monthly retail trade: sales and accounts receivable: June 1972 (BR 72-6). 36pp. 25¢.

Monthly wholesale trade—sales and inventories: June 1972 (BW 72-6). Annual subscription $1.50. Single copy 15¢.

Estimated sales of U.S. retail stores for week ending August 26 (CB 72-213). 2pp. 10¢.

Canned food—stocks, pack, shipments: July 1, 1972 (B1-72-5). Annual subscription, including five issues, $1. Single copy 25¢.

Foreign Trade

Exports—commodity by country: May 1972 (FT 410-72-5). Annual subscription $33 ($8.25 more for foreign mailing). Single copy $2.75.

Imports—commodity by country: May 1972 (FT 135-72-5). Annual subscription $21 ($5.25 more for foreign mailing). Single issue $1.75.

Export and import merchandise: July 1972 (FT 900-72-7). Annual subscription (FT 900, 975. 985, and 986 combined) $3. Single copy 10¢.

Highlights of exports and imports: July 1972 (FT 990-72-7). Annual subscription $5 ($1.25 more for foreign mailing). Single copy 45¢.

Gold movements: July 1972 (FT 2402-72-7). 2pp. Annual subscription $1. Single copy 10¢.

Industry

Fats and oils production, consumption, and factory and warehouse stocks: summary for 1971 (Series: M20K(71)-13). 18pp. Price 15¢ per copy. $3 per year (incl. M20J).

Manufacturers' shipments of office furniture: 1971 (Series: MA-25H(71)-1). 8pp. 25¢.

Aluminum ingot and mill products: summary for 1971 (Series: M33-2(71)-14). 16pp. Price 15¢—$1.50 per year.

Fluorescent lamp ballasts: summary for 1971 (Series: MQ-36C(71)-5). Change sheet.

Switchgear, switchboard apparatus, relays, and industrial controls: 1971 (Series: MA-36A(71)-1). 8pp. 25¢.

Electric housewares and fans: 1971 (Series: MA-36E(71)-1). 8pp. 25¢.

Selected atomic energy products: 1971 (Series: MA-38Q(71)-1). 4pp. 25¢.

Plumbing fixtures: summary for 1971 (Series: MQ-34E(71)-5). Price: 25¢—$1 per year.

Annual Survey of Manufactures: 1970 (M70(AS)-6.8). **Part 8—Mountain Division.** 8pp. 25¢. Preprint.

Annual survey of manufactures: 1970 (M70(AS)-61). **Part 1—New England Division.** 16pp. 25¢. This is a preprint of a chapter in the Annual Survey.

Population

Estimates of the population of the United States to July 1, 1972 (Series P-25, No. 487). 2pp. 5¢.

State economic areas (PC(2)-10B). 482 pp. $3.50.

Recent purchases of cars, houses, and other durables and expectations to buy during the months ahead: survey data through July 1972 (Series P-65, No. 42). 18pp. 20¢.

Money income in 1971 of families and persons in the United States (Series P-60, No. 83). 8pp. 10¢.

Current Population Reports issued in Series P-20, P-23, P-25, P-26, P-27, P-28 (summaries only), P-60 and P-65 are sold as a single consolidated subscription at $14 per year, $3.50 more for foreign mailing.

1970 Census of Population

Characteristics of the population: Part A, Number of inhabitants. Sec. 1—United States, Alabama-Mississippi. 1184pp. **Section 2—Missouri-Wyoming, Puerto Rico, and outlying areas.** 1000pp. $20.75 for sections 1 and 2. Sold as a set only. Final official population counts are presented.

Population of places of 2,500 or more: 1970 and 1960 (PC(S1)-26). 51pp. 50¢.

Occupation of employed persons for the United States. (PC(S1)-23). 4pp. 10¢.

Industry of employed persons for the United States. (PC(S1)-24). 4pp. 10¢.

Weeks worked, class of worker, last occupation of the experienced unemployed, and labor mobility for the United States. (PC(S1)-25). 4pp. 10¢.

Census Tracts

Standard Metropolitan Statistical Areas **Chicago, Ill.—Part 1** (PHC(1)-43). 588 pp. $7.50 per set (Parts 1 and 2).

Los Angeles-Long Beach—Parts 1 and 2 (PHC(1)-117). Part 1, 752pp.; part 2, 392pp. $8 for parts 1 and 2.

New York—Part 3 (PHC(1)-145). 516pp. $12.75 for parts 1, 2, and 3.

SCIENCE & TECHNOLOGY

NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.

Monthly weather review. Vol. 100, No. 7. Annual subscription $10.50 ($2.75 more for foreign mailing). Single copy $1.

Monthly climatic data for the world. Vol. 25, No. 1. Annual subscription $2.75 ($1 more for foreign mailing). Single copy 25¢. Sponsored by the World Meteorological Organization in cooperation with NOAA. Climatic data for selected stations prepared by members of WMO for monthly exchange through international communications facilities.

Environmental Data Service

Climates of the States: New Mexico (No. 60-29). 18pp. 20¢.

National Ocean Survey

Tide tables—high and low water predictions 1973 East Coast of North and South America including Greenland. 294pp. $2. For sale by the National Ocean Survey and its agents.

Pacific SEAMAP 1961-70 Data for area 15524-10 (NOS 45). 284pp. $3.50. Processed bathymetry, magnetic, and gravity data collected in the North Pacific.

Pacific SEAMAP 1961-70 Data for area 15530-10 (NOS 46). 258pp. $3.50. Processed bathymetry, magnetic, and gravity data collected in the North Pacific area.

NATIONAL BUREAU OF STANDARDS

Subroutine for the calculation of CODEN check characters (Tech. Note 738). 12pp. 25¢. A FORTRAN subroutine is described that computes the check character for an ASTM CODEN for Journal Titles. This routine, written for input in Hollerith characters, is adaptable to other coding schemes.

Reference tables for low-temperature thermocouples (Monogr. 124). 61pp. 60¢. Details the experimental program to establish low-temperature reference tables for the commonly used thermocouples.

A motorist radio service (PB-210 255). Advanced Technology Systems, Inc., Arlington, Va. 151pp. Discusses a system to provide a motorist the means for immediately obtaining information pertinent to driving conditions and assistance from other motorists or from organizations that provide highway services.

Crystal structure transformations in binary halides (NSRDS-NBS 41). July 1972. 53pp. 55¢. Data on thermodynamic, crystallographic, spectroscopic and electronic properties are given for each transformation. Experimental techniques used to obtain the data are listed.

Microcircuit device environmental data (AD-744 018). Paper only, 50¢. 196pp. Quantitative information on susceptibility of individual microcircuit device types to common environmental test conditions.

Heavy-atom kinetic isotope effects: an indexed bibliography (Spec. Publ. 349). 39pp. 45¢. Covers the complete literature from the earliest entry found (1911) through 1965. Review articles and theoretical papers are listed through 1968.

NATIONAL TECHNICAL INFORMATION SERVICE

Subsurface pollution problems in the United States (PB-210 923). Environmental Protection Agency, Washington, D.C. 36pp. Discusses direct introduction of pollutants deep within the earth by injection through wells; percolation of pollutants from surface and near surface sources such as septic tanks, leaching ponds, sanitary landfills, and agricultural pesticides, and intrusion of salt water into fresh-water aquifers due to reduced fresh-water flow in coastal areas or the breaching of impervious strata in inland areas.

Enforcement management systems — users guide (PB-210 716). TRC—The Research Corp. of New England, Wethersfield, Conn. 218pp. Provides an organized methodology for use by state and local air pollution agencies to control enforcement activities.

Large mergers in manufacturing and mining 1948-1971 (PB-210 756). Bureau of Economics, Washington, D.C. 85pp. Lists mergers involving an acquired manufacturing or mining company with assets of at least $10 million. Asset and profit figures, industry classification, date of consummation, and type of acquisition are given.

Current trends in merger activity, 1971 (PB-210 757). 30pp.

Bibliography of Soviet laser developments, No. 6 (AD-740 872). Informatics Tisco, Inc., Riverdale, Md., Paper copy $4.85. 83pp. Covers laser research and applications.

Tracked air cushion research vehicle subsystems analysis (PB-210 826). Grumman Aerospace Corp., Bethpage, N.Y. 205pp. Describes selection, sizing, and installation of the air supply system air cushions, secondary suspension, braking system, environmental control system and electric, hydraulic, and pneumatic power systems.

Regional Air Pollution Study: A Prospectus. Part I—Summary (PB-210 017). Stanford Research Inst., Menlo Park, Calif. 102pp. $5.45.

The Civil Aircraft Sonic Boom Regulation. Draft environmental impact statement (EIS-AA-72-4712-D). Federal Aviation Administration. Wash., D.C. Airports Service. 31pp. $3.75.

A Literature Survey of Ocean Pollution (AD-743 101). Catholic University of America, Wash., D.C., Inst. of Ocean Science and Engineering. 116pp. $5.45.

A Review of On-Site Domestic Sewage Treatment Processes and System Alternatives (PB-209 956). Mitre Corp., McLean, Va. 24pp.

The Relationship Between Land Use and Environmental Protection (PB-209 642). Argonne National Lab., Ill., Center for Environmental Studies. 56pp. $4.50.

Models of Industrial Pollution Control in Urban Planning (AD-742 401). RAND Corp., Santa Monica, Calif. 48pp. $3.75.

20 Watt-Hour Per Pound Regenerative Fuel Cell (AD-740 598). Electro-Optical Systems, Pasadena, Calif. 185pp. $6.

Fundamental Studies in the Use of Sonic Power for Rock Cutting (AD-740 808). Ohio State Univ. Research Foundation, Columbus. 222pp. $6.75.

Marketing Theory and the Fencing of Stolen Goods (PB-207 848). Colorado State Univ., Fort Collins, College of Business. 105pp. $5.45.

The Real Estate Settlement Process and Its Costs (PB-203 020). Washington College of Law, D.C. 468pp. $10.60.

Nuclear reactors built, being built, or planned (TID-8200, Rev. 25). Technical Information Center, AEC, Oak Ridge, Tenn. 43pp.

Radioactive waste processing and disposal (TID-3311 Sup. 3). Technical Information Center, AEC. Paper copy $6. 598pp. Cites 2249 references selected from *Nuclear Science Abstracts*, Vol. 21 (1967) through issue 4 of Vol. 26 (1972).

Electrical power supply and demand forecasts for the United States through 2050 (PB-209 266). Hittman Associates, Inc., Columbia, Md., February 1972, paper copy $4.50, 57pp.

Readings for the Eco-Activist: a bibliography of selected environmental publications of the executive branch of the Federal Government (PB-208 943). Information Services Div., Dept. of the Interior, Washington, D.C., 48pp.

Report of the Federal Trade Commission on rates of return in selected manufacturing industries 1961-1970 (PB-208 764). Federal Trade Commission, Washington, D.C., paper copy $4.50, 78pp.

Care in hospitals and institutions during the last year of life by cause of death: United States, 1962-1965 deaths (PB-208 639). Research Triangle Institute, Research Triangle Park, N.C., paper copy $4.50, 59pp.

Microwave lasers (AD-738 650). Defense Documentation Center, Alexandria, Va., 270pp. DDC bibliography (with abstracts) containing references on lasing on the microwave frequencies (masers).

The potential impact of aircraft emissions upon air quality (PB-208 950). Northern Research and Engineering Corp., Cambridge, Mass., paper copy $9, 330pp.

The potential impact of aircraft emissions upon air quality (PB-208 950). Northern Research and Engineering Corp., Cambridge, Mass., paper copy $9, 330pp.

1971 world survey of current research and development on roads and road transport (PB-206 728). International Road Federation. 458pp. $6.

Thermal conductivity of gases and liquids (AD-736 963). Translated from the Russian. 201pp.

Employment contexts and disadvantaged workers (PB-206 492). Bureau of Social Science Research, Washington, D.C. 250 pp. Discusses integration of Work Incentive Program (WIN) enrollees into the regular work force.

Determinants of labor force participation by married women 30-44 years of age (PB-206 502). Ohio State U. 165pp.

Groundwater law, management and administration (PB-205 527). National Water Commission, Arlington, Va. 554 pp. $6.

Environmental indicators for pesticides (PB-210 666). Stanford Research Instituthe, Menlo Park, Calif. 129pp. $5.45. Studies environmental indicators of pesticides, including consideration of projection, imports, exports, and consumption.

Inter-organizational research in health: bibliography (1960-70) (PB-210 751). Johns Hopkins Univ., Baltimore, for the National Center for Health Services Research and Development. 89pp.

Large urban public hospitals—ambulatory services: contemporary status: summary report (PB-210 517). Univ. of California School of Public Health, Los Angeles, for the National Center for Health Services Research and Development. 203pp. $6.75. Surveys ambulatory services provided by 51 major urban hospitals.

Guidelines for health services R&D: common data set for hospital management (PB-210 760). National Center for Health Services Research and Development. 82pp.

Intergovernmental relations in water resources activities (PB-210 358). Wendell and Schwan, Washington, D.C., for the National Water Commission. $12.50. 632pp. Classifies intergovernmental arrangements for public water activities in terms of nine tools which federal, state and/or local units of government use to secure water resources actions by other levels of government.

The role of research and development in water resources planning and management for achieving urban goals (PB-210 133). National Planning Assn., Washington, D.C., $9. 651pp. Develops a systems analytic framework for interrelating decision criteria of the research planner, the water resources planner, and the urban planner.

Demographic profiles of the United States, Vol. VI: The East South Central States (ORNL-HUD-24 V.6). Oak Ridge National Lab. 217pp.

A review of the relationship between research and development and economic growth/productivity (PB-210 510. National Science Foundation, Washington, D.C. 73pp.

The following reports deal with the design of a system to monitor the nation's environment. They describe a proposed set of approximately 110 environmental indices and identify major gaps in current monitoring practice:

Monitoring the environment of the nation (PB-205 989). Mitre Corp. 216pp. $6.75. **Same title, appendices** (PB-205 990). 764pp. $12.50.

Formulating an oceanic jurisprudence (COM-72-10127). U. of Miami. 30pp.

Non-destructive testing: methods, techniques and their applications (AD-733 850). Defense Documentation Center. 156pp. Bibliography (with abstracts) covering the period January 1953 through September 1971. References are grouped under the following major headings: (1) lasers, (2) eddy currents, (3) electrical, (4) magnetic, (5) visual, (6) thermal, and (7) stresses, pressure and leak testing.

Experimental and analytical investigation of the effect of truck-induced aerodynamic disturbances on passenger car control (PB-206 878). Systems Technology, Inc., Hawthorne, Cal. 109pp.

Development and testing of integrated seat restraint systems (PB-206 589). U. of Michigan. 78pp.

The following reports concern the effects of noise on living things and property:

Pavement heating (PB-206 879). New Jersey Dept. of Transportation. 72pp. Results of tests using three heat exchangers, each consisting of 1¼" diameter wrought iron pipe buried three to thirteen inches in the earth. By means of a circulating ethylene glycol solution, heat is transferred from the exchangers to a grid of pipes embedded in the pavement.

Economic and financial feasibility models for new community development (PB-206 925). Real Estate Research Corp., Washington, D.C. 232pp. Emphasizes economic factors beyond the control of the project developer.

Directions for research to improve hearing aids and services for the hearing-impaired (AD-736 688). National Research Council Committee on Hearing, Bioacoustics and Biomechanics, National Academy of Sciences. 44pp.

A collected bibliography of clinical advances in sickle cell disease based on the murayama molecular hypothesis (AD-741 818). U.S. Army Medical Research Lab, Fort Knox. 14pp.

Ecological aspects of the nuclear age: selected readings in radiation ecology (TID-25978). U.S. Atomic Energy Commission, Technical Information Center. Paper copy $6. 590pp.

Applications of aerospace technology in biomedicine. A technology transfer profile: patient monitoring (N71-13056). Abt Associates, Inc., Cambridge, Mass. 36pp. Discusses equipment developed by NASA that can be applied to monitoring a large number of cardiovascular parameters.

Study of the future supply of natural gas for electrical utilities (PB-209 285). Hittman Asso., Columbia, Md. Paper copy $3.75. 44pp. Examines availability of natural gas as a low sulfur fuel for electrical production. Projects demand through the year 2000, and evaluates alternates such as coal and oil shale gasification, liquid natural gas, and well stimulation.

Study of the future supply of low sulfur oil for electrical utilities (PB-209 257). Hittman Asso., Columbia, Md. Paper copy $4.85. 76pp. Discusses oil production and consumption, future demand for residual oil, and low sulfur residual oil alternatives.

Survey of nuclear power supply prospects (PB-209 283). Hittman Assoc., Columbia, Md. Paper copy $4.85. 99pp. Discusses the nuclear segment of the power industry and evaluates ways in which nuclear power will affect national air quality and emissions from fossil-fueled steam electric plants.

Organizational stress and individual strain: a social-psychological study of risk factors in coronary heart disease among administrators, engineers, and scientists (N72-13053). Univ. of Michigan, Ann Arbor. Paper copy $9. 691 pp.

National plan for navigation (AD-741 944). Dept. of Transportation, Washington, D.C. 34pp. Presents a plan for operation, development, and implementation of existing and possible future navigation systems for civil aviation and maritime requirements.

Fundamental studies in the use of sonic power for rock cutting (AD-740 808). Ohio State Univ. Paper copy $6.75 222pp. Covers systems development and discusses tool impact on racks, stresses developed during sonic impact, vibrational characteristics of a sonic transducer, tool impact on a transmission line, and the sonic interaction process.

Economic impact of air pollutants on plants in the United States (PB-209 265). Stanford Research Institute, Menlo Park, Calif. Paper copy $4.85. 83pp. Tables showing relative sensitivity of various plant species to oxidants, sulfur dioxide, and fluorides are included.

Defending the environment—a case history. (BNL-50309). Brookhaven National Lab. Upton, N.Y. 25pp. Reviews history of the Environmental Defense Fund (EDF) and its efforts involving such problems as the degradation of free flowing rivers by damming, channelization, and dredging; emission of lead from automotive exhaust; atmospheric pollution by a pulp mill; over-hunting of the great whales; damage to the environment by oil exploitation; dumping of nerve gas at sea by the U.S. Army; and prevention of the use of DDT and other pesticides in the chlorinated hydrocarbon family.

OFFICE OF TELECOMMUNICATIONS

Classical scattering calculations for diatomic molecules—a general procedure and application to the microwave spectrum of O_2 (TRER 32). 64pp. 60¢.

Research and Engineering Reports

Evaluation of a system for remote oscillator synchronization (TRER 29). 56pp. 55¢.

Bibliography on propagation effects from 10 GHz to 1000 THz (TRER 30). 86pp. 75¢.

Necessary bandwidths for frequency-modulated microwave radio relay systems (OT/TRER 26). 18 pp. 30¢. A method for determining the necessary bandwidth for a frequency-modulated (FM) microwave radio relay system that is equipped with a continuity pilot is described.

☆ U.S. Government Printing Office: 1972—511-341/5

Commerce Department Directory

Commerce Building, 14th Street and Constitution Avenue, Washington, D.C. 20230

Phone (202) 783-9200

PETER G. PETERSON, Secretary of Commerce

JAMES T. LYNN, Under Secretary of Commerce

SECRETARIAL OFFICERS

ROBERT A. PODESTA, Asst. Secretary for Economic Development (Economic Development Administration)

GUY W. CHAMBERLIN, Jr., Acting Asst. Secretary for Administration

HAROLD C. PASSER, Asst. Secretary for Economic Affairs (Social and Economic Statistics Administration)

RICHARD O. SIMPSON, Acting Asst. Secretary for Science and Technology

ROBERT J. BLACKWELL, Asst. Secretary for Maritime Affairs (Maritime Administration)

JAMES L. HAMILTON III, Acting Asst. Secretary for Tourism (United States Travel Service)

WILLIAM N. LETSON, General Counsel

ANDREW E. GIBSON, Asst. Secretary for Domestic and International Business

HEADS OF OPERATING UNITS

ROBERT M. WHITE, National Oceanic and Atmospheric Administration

WILLIAM V. HOYT, Office of Foreign Direct Investments

ROBERT GOTTSCHALK, Patent Office

LAWRENCE M. KUSHNER, Acting, National Bureau of Standards

GEORGE H. BROWN, Bureau of the Census

MARINUS van GESSEL, Acting, Bureau of International Commerce

HUDSON B. DRAKE, Bureau of Domestic Commerce

GEORGE JASZI, Bureau of Economic Analysis

JOHN M. RICHARDSON, Acting, Office of Telecommunications

WILLIAM T. KNOX, National Technical Information Service

JOHN L. JENKINS, JR., Office of Minority Business Enterprise

OMBUDSMAN FOR BUSINESS
Thomas E. Drumm, Jr.

BUSINESS SERVICES FIELD OFFICES

ALBUQUERQUE, N.MEX., 87101, Room 316, U.S. Courthouse. Area Code 505, 843-2386.

ANCHORAGE, ALASKA, 99501, 632 West Sixth Ave., Hill Bldg., Suite 412, Area Code 907, 272-6531.

ATLANTA, GA., 30309, Suite 523, 1401 Peachtree St., NE. Area Code 404, 526-6000.

BALTIMORE, MD., 21202, 415 U.S. Customhouse, Gay and Lombard Sts. Area Code 301, 962-3560.

BIRMINGHAM, ALA., 35205, Suite 200-201, 908 S. 20th St. Area Code 205, 325-3327.

BOSTON, MASS., 02116, 10th Floor, 441 Stuart St. Area Code 617, 223-2312.

BUFFALO, N.Y., 14202, Room 910, Federal Bldg., 111 W. Huron St., Area Code 716, 842-3208.

CHARLESTON, S.C., 29403, Federal Bldg., Suite 631, 334 Meeting St. Area Code 803, 577-4171.

CHARLESTON, W.VA., 25301, 3000 New Federal Office Bldg., 500 Quarrier St. Area Code 304, 343-6181 Ext. 375 and 376.

CHEYENNE, WYO., 82001, 6022 Federal Bldg., 2120 Capitol Ave. Area Code 307, 778-2220.

CHICAGO, ILL., 60604, 1486 Dirksen Bldg., 219 S. Dearborn St. Area Code 312, 353-4461.

CINCINNATI, OHIO, 45202, 8028 Federal Office Bldg., 550 Main St. Area Code 513, 684-2944.

CLEVELAND, OHIO, 44114, Room 600, 666 Euclid Ave. Area Code 216, 522-4750.

DALLAS, TEX., 75202, Room 3E7, 1100 Commerce St. Area Code 214, 749-3287.

DENVER, COLO., 80202, Room 161, New Custom House, 19th and Stout Sts., Areas Code 303, 837-3246.

DES MOINES, IOWA, 50309, 609 Federal Bldg., 210 Walnut St. Area Code 515, 284-4222.

DETROIT, MICH., 48226, 445 Federal Bldg. Area Code 313, 226-6088.

GREENSBORO, N.C., 27402, 258 Federal Bldg., W. Market St., P.O. Box 1950, Area Code 919, 275-9111.

HARTFORD, CONN., 06103, Room 610-B, Federal Office Bldg., 450 Main St. Area Code 203, 244-3530.

HONOLULU, HAWAII, 96813, 286 Alexander Young Bldg., 1015 Bishop St. Area Code 808, 546-8694.

HOUSTON, TEXAS, 77002, 201 Fannin, 1017 Federal Office Bldg., Area Code 713, 226-4231.

JACKSONVILLE, FLA., 32207, Suite 129, 4080 Woodcock Drive, Area Code 904, 791-2796.

KANSAS CITY, MO., 64106, Room 1840, 601 E. 12th St. Area Code 816, 374-3141.

LOS ANGELES, CALIF., 90024, 11201 Federal Bldg., 11000 Wilshire Blvd. Area Code 213, 824-7591.

MEMPHIS, TENN., 38103, 710 First American Bank Bldg., 147 Jefferson Ave. Area Code 901, 534-3214.

MIAMI, FLA., 33130, Rm. 821, City National Bank Bldg., 25 W. Flagler St. Area Code 305, 350-5267.

MILWAUKEE, WIS., 53203, Straus Bldg., 238 W. Wisconsin Ave. Area Code 414, 224-3473.

MINNEAPOLIS, MINN., 55401, 306 Federal Bldg., 110 S. Fourth St. Area Code 612, 725-2133.

NEW ORLEANS, LA., 70130, 909 Federal Office Bldg., S., 610 South St. Area Code 504, 527-6546.

NEW YORK, N.Y., 10007, 41st Floor, Federal Office Bldg., 26 Federal Plaza, Foley Sq. Area Code 212, 264-0634.

PHILADELPHIA, PA., 19107, Jefferson Bldg., 1015 Chestnut St. Area Code 215, 597-2850.

PHOENIX, ARIZ., 85004, 508 Greater Arizona Savings Bldg., 112 N. Central Ave. Code 602, 261-3285.

PITTSBURGH, PA., 15222, 431 Federal Bldg., 1000 Liberty Ave., Area Code 412, 644-2850.

PORTLAND, ORE., 97205, 921 S.W. Washington St., Suite 501, Pittock Block, Area Code 503, 221-3001.

RENO, NEV., 89502, 2028 Federal Bldg., 300 Booth St. Area Code 702, 784-5203.

RICHMOND, VA., 23240, 2105 Federal Bldg., 400 N. 8th St. Area Code 703, 782-2246.

ST. LOUIS, MO., 63103, 2511 Federal Bldg., 1520 Market St. Area Code 314, 622-4243.

SALT LAKE CITY, UTAH, 84111, 1201 Federal Bldg., 125 S. State St., Area Code 801, 524-5116.

SAN FRANCISCO, CALIF., 94102, Federal Bldg., Box 36013, 450 Golden Gate Ave. Area Code 415, 556-5864.

SAN JUAN, P.R., 00902, Room 100, Post Office Bldg., Area Code 809, 723-4640.

SAVANNAH, GA., 31402, 235 U.S. Courthouse and Post Office Bldg., 125-29 Bull St. Area Code 912, 232-4321.

SEATTLE, WASH., 98104, 8021 Federal Office Bldg., 909 First Ave. Area Code 206, 442-5615.

UNITED STATES
GOVERNMENT PRINTING OFFICE
DIVISION OF PUBLIC DOCUMENTS
WASHINGTON, D.C. 20402

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. GOVERNMENT PRINTING OFFICE

First-Class Mail

U.S.MAIL

CR - MAY 46129
UNIVERSITY MICROFILMS
SERIALS SECTION
300 NORTH ZEEB RD
ANN ARBOR MICH 48106

NOW YOU CAN OWN YOUR OWN BUSINESS

$13.16 BILLION

FRANCHISE SALES IN 1971

Franchising is a means through which an individual with limited capital and experience can own or operate his own business. More than 400 franchisors listed in the *Franchising Opportunities Handbook* offer a choice of 34 kinds of businesses available through franchising.

Mail to: Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Enclosed $____ for ____ copies of the FRANCHISE OPPORTUNITIES HANDBOOK, at $1.50 each. (Send only check or money order payable to the Superintendent of Documents.)

Name _____

Address _____

City, State & Zip Code _____